THE

Three Systems

OF

LIFE INSURANCE,

EMBRACING

I. The Level Premium System.
II. The Natural Premium System.
III. The Assessment System.

BY

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INTRODUCTION.

The idea of publishing the work here presented did not suggest itself until much of the material that it contains had accumulated for the private use of the author.

Since the organization of **The Bureau of Life Insurance Information**, in 1881, many letters have been received from different localities throughout the United States and Territories, and from Canada, asking for information. These letters cover a wide range of inquiry upon subjects involving the elementary principles of Life Insurance. To answer these much time and labor have been required. The following, copied at random from a few of these letters, will convey an idea of their general scope:

1. *What is a Mortality Table, and where can I obtain one?*
2. *What is the difference between the reserve and the surplus of a company?*
3. *Why is the dividend on a Life Policy larger the tenth, than it is the fifth, year?*
4. *I have one policy that was taken out nearly thirty years ago, but the dividend this year is not so large as it was ten years ago. I have another that is only six years old, and the dividend has increased every year. Why is this?*
5. *Why can't Life Insurance be done the same way that Fire Insurance is?*
6. *Please explain Endowment Insurance.*
7. *What is Tontine Insurance?*
8. *What is meant by the expression, "Actuaries' 4 per cent."?*
9. *Please explain the new Massachusetts' Non-Forfeiture Law.*
10. *What do you think of the Homans plan of Insurance? Isn't it Assessment Insurance in a new dress?*
11. *Which is the best* ASSESSMENT COMPANY?
12. *An agent tells me that the New York Non-Forfeiture law compels all New York companies to pay a definite amount, in cash, for a policy after it has been running three or more years. Please explain this, How does it differ from the Massachusetts' law?*

13. Is there any good Assessment Company that issues Endowment Life Insurance policies?

14. What is meant by "The Expectation of Life," a phrase used so often by Life Insurance men?

15. What are the sources of dividends in the "Old Line" companies? Why can't we pay less for insurance and not receive any dividends?

16. I want $10,000 life insurance to be paid for in ten years, as an estate to go to my wife and children after my death. I also want $10,000 payable to my boy, now six years old, when he is twenty-one, or to a trustee for him should I die before he does; and I want $10,000 for the next ten or fifteen years, the cheapest insurance that can be had consistent with security. Please give me the information necessary for an intelligent selection of companies, and send bill for services.

17. An agent has been in to see me several times trying to insure me for $10,000 on what he calls the "The Reserve Addition" plan, or "The Accumulation" plan, I think it is. I am to pay for it in ten years, and he says that at the end of nineteen years I will receive the $10,000, in cash, if I live until then, but if I die before that time my wife will receive the whole amount. Do you think a company can do such a thing? Please answer in detail and send your bill.

18. If I insure for $10,000, and die the first year, how can a company afford to pay my wife and children the $10,000? I don't understand it. Please explain and send charges.

19. What is an actuary? Do they have actuaries in fire insurance companies?

20. I noticed in a recent issue of a Chicago paper your card advertising a Bureau of Life Insurance Information. *As I am largely interested in Life Insurance I naturally desire to gain such information concerning this interest as may be of value to me. Your reply intimating what you may have to offer will be appreciated by me. Enclosed find stamp.*

21. How can an Assessment Company *safely issue Endowment policies?*

22. What are Reversionary Additions *or* Dividends?

23. What is the difference between "Old Line" *insurance and* Assessment *insurance? Are not the principles upon which they are based the same?*

24. *Is there any good* ASSESSMENT COMPANY *that makes assessments only three or four times a year, at stated fixed dates? Please reply.*

25. *Why are the* "OLD LINE" *called* "LEVEL PREMIUM" *companies?*

26. *Why is it necessary that so many of the Mutual* "OLD LINE" *companies have so much money "in reserve" as they call it? If they are Mutual, why don't they pay back to their members this money, and not pile it up to be preyed upon, perhaps, by avaricious officers? I don't understand it. Please explain.*

27. *What is a "natural premium"?*

28. *I have had a policy in the ——— Company for nearly sixteen years, and I asked what they would pay me for it, in cash, and they won't pay a red cent! They say that they are selling insurance, not buying it.* (This gentleman describes his policy—tells how much he has paid on it, in cash, and wants to know if it is worth anything.)

The above extracts from a few of the thousands of letters received, during the last four years, sufficiently indicate the eagerness with which the general public are seeking impartial and reliable information on the subject of life insurance. One object, therefore, in the publication of this book, was to more fully supply this demand, and, at the same time relieve the office, possibly, from a large amount of correspondence on certain topics. Nearly every question given above is answered in this book more completely than could be done by letter, and at much less expense to the correspondent; besides it gives much additional information that could not possibly be communicated in one or fifty letters.

The book has been written from an absolutely impartial stand-point, as the reader will readily perceive in the perusal of its pages, and therein consists one of its principal merits.

The Three Systems of Life Insurance find expression in the different conditions, tastes and surroundings of the insured and the insurable, in every community. They exist, because there is a demand for them.

One person desires cheap insurance combined with Investment. The investment is the principal idea. He would not take the insurance, no matter how cheap, without the investment; but to secure the *investment*, he will accept the insurance. This man represents a large class in every populous community. **The Level Premium System**, with its ENDOWMENT, TONTINE, and SEMI-TONTINE policies, by whatever names designated, supplies the demand.

Another wants Life Insurance as an estate. He thinks that every one who has a family to support, ought to indemnify them against possible loss, and consequent suffering, by his death. He does not regard life insurance as an *investment*. Indemnity first; an estate, afterwards, are the leading ideas. He believes that he can take care of his family while he lives, and, if the payments be limited to ten, fifteen or twenty years, he can pay for such a policy during the productive period of his life. He wants a good policy contract; one that will be Non-Forfeitable and incontestable, after a certain number of years. If he were to become a lunatic after the payment of several premiums, and were to commit suicide, perhaps, he does not want to involve his family in a lawsuit with a rich corporation. If from reverses in business he were to become despondent, and dissolute in his habits, he does not want his reserves in the company's possession confiscated. He wants a policy-contract—and he will accept no other—that, after the payment of two or three years' premiums, in cash, will be, *without further stipulation or negotiation*, good for a certain amount of paid-up insurance covering the whole period of life; or, one that will be extended for its full face value until the reserve has been exhausted in payment for such extension. Dividends with him are of secondary consideration. This man represents a very large class, and its demands must be responded to. If a selection of companies be wisely made, **The Level Premium System,** with its 10, 15, or 20 annual payment life policies, fully supplies the demand.

There is another who represents a different class from those already mentioned. He wants life insurance; believes in it, but thinks that he can handle his own money better than any insurance company can handle it for him. He can make his own *investments*, as he expresses it. He wants pure insurance, for a definite amount guaranteed in the policy, without any "ifs" or "provideds" about it, and he wants it for only the productive period of his life, and it must be cheap. He prefers to pay for it, quarterly, *in advance*. When he pays his premium, he wants to know how much he is paying for *insurance;* how much for *expenses*, and how much for *contingencies*. He is willing to pay an equitable amount, from quarter to quarter, for a definite amount of insurance, including expenses and contingencies, but not one penny, additional, to accumulate in the treasury of the company, and that can *not* be used, if necessary, in payment of current death claims. He is willing to pay for such insurance at an increasing cost from year to year, as age increases. To this demand from a very numerous class, **The Natural Premium System responds.**

And there is yet another who represents an *entirely* different class. Neither of the two systems named conforms to either his *ideas* or his *purse*. He wants to pay for a thing when he gets it ; not before. The idea of fifty or a hundred, or *several* hundred individuals, more or less, associating themselves together in a kind of society, or brotherhood, and, whenever one of their number dies, each of the remaining members to pay a certain sum named to the bereaved family, this plan of insurance, as he calls it, seems to commend itself to him. They may all be engaged in the same occupation, conductors, engineers, &c., &c.; or, they may be employed in the different departments of the same corporation, or of similar corporations in different parts of the country ; or, they may be members of the same secret society, board of trade, or produce exchange, and, although no definite sum is named to be paid to the widow and children of a deceased brother, yet each contributes what he had pledged, when the emergency occurs. Such societies exist in response to the demands of a very large class of respectable people. They are called **assessment societies.** It is true that not one scientific principle upon which sound life insurance is based—except that of association—enters into the organization of this kind of societies ; but in thousands of instances the contributions, thus made, have paid all the funeral expenses, and a very considerable sum has been left with which to provide shelter, food, fuel, and clothing for the bereaved family ! Who can have a heart so pulseless and cold as to not feel glad that the otherwise shelterless, homeless, penniless, widowed mother, and the fatherless children have thus found relief, though it be but temporary, through the benefactions of these *most primitive* assessment societies ? In some of them are to be found well to-do men. Many of them are insured in *other* organizations, and in the **Level premium companies,** but they have become members of these societies, mainly, in a great many instances, to help and encourage those who are not able to pay for any other kind of indemnity. Among them are foremen of the different departments of large manufacturing establishments, and, not infrequently, the manufacturers and the railroad officials themselves.

There is another class of assessment societies that has been organized on *quasi* scientific principles. A mortality table, or the rates of some Level premium company, *was consulted;* but, in a large number of cases, the leaders who took the initiative in the organizations, were not sufficiently familiar with the science of life insurance to know how to utilize them. The membership is separated into classes, according to their ages, each class including several ages. "Once in a class always in the *same* class," is their motto, and the assessment for each death is never to be increased. This distinctive feature is kept well in the foreground as one of the reasons for becoming a member. "Your assessment will never be increased." The reason given by one of this class, for not increasing the rate of assessment, as the age increases and consequently the *cost*, is the following:

"*And as they advance in age the cost to a member does not increase, for every death in the ranks is replaced by a vigorous young member, and the average mortality forever remains about the same.*"

The organizers of this class of societies did not seem to comprehend the fact that when a member was classified at age 60, for instance, with a permanent rate of assessment at, say, $1.80 for each death, he might live to be 75, when the cost of carrying him would be more than three and a half times as much as when he entered the society. It is at this class of societies that the Level premium companies have fired their most effective missiles, and with the most fatal results. Hundreds of them have run for a few years and then retired, the direct results of *unscientific rating*. Such societies may be found all over this country, struggling to perpetuate an existence. Their efforts remind one of an attempt to build a high tower, at an angle of thirty-three and one-third degrees off the perpendicular. Such a tower may be built, quite high, if the base be broad; but, if continued, after a time the center of gravity will fall outside the base when the structure will tumble; not necessarily because the workmen were inefficient, nor that the bricks and mortar were of bad materials, but because they were building against the great law of gravitation. It might be propped up for a time, and the work of construction be continued, but eventually the structure will fall to the ground, a shapeless mass of bricks and mortar. Thus has it been, and it always will be, with *this class* of assessment societies. When one of these has been in existence long enough for its center of gravity to fall outside its base, it has tottered, reeled, and then fallen to the ground. They have fallen like dead leaves of the forest before the autumnal blasts! There is nothing known in the whole range of life insurance mathematics and experience that can compensate for such unscientific rating. New blood can not do it. It may postpone the day of retribution, *for several years*, even, but it is sure to come. It is the penalty for violation of the great law of mortality, that pervades the entire human family.

During the last ten years a few scientific men have been investigating the subject of assessment insurance. These, together with others who possess large business capacities, have wrought a wonderful improvement in the system, as a **system**. The question has finally taken shape in the **Convention of Mutual Benefit Life Associations of America**. This convention, at its last session, adopted a series of resolutions which resulted in the appointment of L. G. FOUSE, Esq., of Philadelphia, Pa., to prepare a standard of rates. Through the politeness of this gentleman, proof sheets of his report have been placed at the disposal of the author, portions of which will be found in the following pages:

Under the existing insurance laws of the States, no assessment company or society can *absolutely guarantee* payment of the full face value of its certificate without making itself liable for the same reserve, from year to year, as is required under the **Level premium system**. As a matter of fact it cannot guarantee *any, definite* sum, in dollars and cents, without assuming a corresponding liability of reserve. And this is as it should be. These societies may be able to pay the full amount named in their policies or certificates, and some of them *have done so*, since date of organization, but they cannot *agree* to do so, in their policy contracts, for reasons stated above. The question before the National Convention above alluded to, seems to be, substantially this: *How can we grade our rates and adjust our machinery so as to pay the full face value of our certificates without being liable for Level premium reserves?* If the report of MR. FOUSE be adopted, by the National Convention, assessment insurance will have made a giant stride in the right direction.

It is not the province of this work to advocate any *one* system of life insurance to the exclusion of the others. Its purpose is to portray the characteristic features of the THREE SYSTEMS, and to point out the requisites for soundness and permanency as dictated by scientific and recognized business principles. No comparisons are made except to define technical terms, and to illustrate principles. The examples of *real* policies used quite freely are for the *sole* purpose of illustration, and, in order to avoid the very appearance of *favoritism* the names of the companies that issued them, and, also, of the persons insured by them, are purposely omitted.

Considerable space is occupied in explaining the TONTINE, and SEMI-TONTINE forms of insurance, under THE LEVEL PREMIUM SYSTEM, and the more scientific forms of THE ASSESSMENT SYSTEM, because there seems to be at the present time, a demand for unbiassed and reliable information on these subjects.

TONTINE insurance has been vigorously assaulted through the leading press, east and west. MR. WOLCOTT, of the Ohio Senate, expresses it in the preamble of his resolutions, calling for an investigation of the subject, as follows:

"WHEREAS.—Complaints for several years past have become general in Ohio, against the inequitable and unjust plans and methods of the Tontine insurance business as conducted by such companies foreign to Ohio; and,

"WHEREAS.—The leading journals of this and other States have recently made startling exposures, if true, of such plans and methods. which are most unjust to policy-holders in such companies; and

"WHEREAS.—Legislation seeking to arrest abuses and to protect the people of Ohio has been instituted by this GENERAL ASSEMBLY;

now, therefore, for the purpose of aiding such legislation and furnishing necessary information to the insurance department of Ohio as a basis for future legislation, *Be it Resolved, &c., &c.*"

The resolutions, in full, as well as the committee's report after it had completed its examinations, may be found in the following pages:

Considerable space has also been given to the discussion of the Massachusetts' Non-Forfeiture law of 1881. There seems to exist a difference of opinion with reference to the cash-surrender value feature of this law. A correspondence was therefore had with all the Massachusetts companies, and with the Hon. Elizur Wright, with reference to that particular feature of the law. This correspondence is both interesting and instructive, and it has been given, therefore, to the readers of this book, together with several *assumed* examples of policies illustrating the *general* features of the law.

As this book has been written mainly for the public in general, extreme care has been exercised in the use of technical terms. If forced to use them they have either been fully defined in preceding pages, or they are explained where used. Such expressions as ACTUARY, REVERSIONARY DIVIDENDS; ACTUARIES' 4 PER CENT.; AMERICAN 4 PER CENT.; NET VALUE OF A POLICY; LEGAL RESERVE; TONTINE, SEMI-TONTINE, &c., &c., are defined in their appropriate places.

The attention of the reader is called to the analysis of **Endowment Insurance**, in Chapter IV, commencing on page 31. The **Endowment** is a very popular form of insurance, because it provides indemnity in a *double* sense; indemnity to the family or other beneficiary, in the event of the death of the insured within a specified period of time—usually ten, fifteen, twenty, or twenty-five years—and indemnity against possible want and suffering at some future time growing out of financial embarrassment. Much the larger portion of the payments made on an endowment policy is guaranteed to earn compound interest, whether the insured die during the endowment period or live until its expiration. This subject is fully illustrated by *assumed* and *actual* examples of policies.

The article on LIFE INSURANCE FAILURES, page 54, taken from a pamphlet entitled "LIFE INSURANCE," &c., published by the GLOBE NEWSPAPER COMPANY, Boston, is worthy of careful perusal.

THE ARTICLE ON LIFE INSURANCE EXPENSES, page 56, by which the expenses of life insurance companies are compared with those of fire insurance, and railroad corporations, will be a surprise to those who are not already familiar with the facts.

Chapter VI, page 59, commences the analysis of **The Three Systems of Life Insurance**, beginning with the Level Premium system. In this and the following chapters the distinguishing characteristics of the THREE SYSTEMS are discussed, together with THE REQUISITES FOR SOUNDNESSS AND PERMANENCY. The *reserve* in the LEVEL PREMIUM SYSTEM; the *reserve* in THE NATURAL PREMIUM SYSTEM, and the *reserve* in THE ASSESSMENT SYSTEM, are, each, plainly defined, so that any one of ordinary intelligence may not only understand them, but also detect their differences. The *reserve* in THE LEVEL PREMIUM SYSTEM is entirely different from that in either of the other two systems. It means accumulation It cannot be used in payment of current death claims. It constitutes more than ninety per cent. of the entire assets of all THE LEVEL PREMIUM COMPANIES. The *reserve* on a policy in THE NATURAL PREMIUM SYSTEM is at its maximum at the beginning of a policy year, and entirely disappears at the end of the year. It is all used in payment of death claims during the year, but it must be used gradually. In THE LEVEL PREMIUM, and THE NATURAL PREMIUM SYSTEMS, insurance mathematics and insurance laws define the nature and prescribe the amount of their respective reserves. The mathematical and legal tests are *rigidly* applied to all policies, in force, at least once every year, by the Insurance Departments of the several States in which these companies are doing business. But the reserves in THE ASSESSMENT COMPANIES are entirely voluntary on the part of the societies themselves. They can provide for a reserve, as the better class of them do, or not. It can be used in payment of current death claims, at any time and in any amount, even to the entire exhaustion of the fund itself. There is at present no statute on the subject.

Not only are the functions of these different kinds of reserves discussed in the chapters alluded to, but also the other elements entering into the formation of a *level premium.*

The Tables, some twenty-five in number, are a very prominent and useful feature of the book. The Actuaries', and the American Experience Tables, are given in full, with additional columns, in each, showing "*Per cent. of Deaths to the Living*"; "*Expectation of Life*"; "*Level Annual Premium to Insure $1,000 for Life*"; and "*The Natural Premium to Insure $1,000, one year*—ages 10 to 100, in the Actuaries', and 10 to 96 in the American. In addition to the usual compound interest tables, will be found several *new ones*, and also a table showing the amount of $1 per annum, for 50 years, at *simple* interest.

The several articles on **Interest**; **Mortality**; **How Mortality Tables are Constructed**; the **Reserve Element**, **The Mortality Element**, and **The Expense Element** of a Level Premium; **The Sources of Dividends**, and **The Several Non-Forfeiture Laws of different States**—together with other valuable information, constitute a popular treatise on the subject of life insurance, for which there has existed, for a long time, an increasing demand.

CHAPTER I.

FIRE INSURANCE.—LIFE INSURANCE.—MAN AS PRODUCTIVE CAPITAL.—THAT BUSINESS BLOCK.—THE SUCCESSFUL CAPITALIST.—THE YOUNG BUSINESS MAN.—THE LAW OF MORTALITY.—HOW MORTALITY TABLES ARE MADE.—THE TWO TABLES USED MOST EXTENSIVELY IN AMERICA.

Fire Insurance is protection against loss by fire, and it is based on the productiveness of the property insured—present or prospective—and the possibility of its destruction by fire.

Life Insurance is protection against financial loss by death, and it is based upon the productiveness of the person insured—present or prospective—and the absolute certainty that he will die.

A healthy body, a strong will, an active brain, and a natural aptness for business are the most productive property in the world. It has been said that when time was young, only two human beings lived on this earth. They lived in a garden, and fig leaves were their clothing. There were no business blocks, no railroads, no banks, no palatial residences, no trade, no commerce, no money, no art, no science, no culture—*no material wealth.* All of these have since been produced by the brain of man. One generation after another has lived and passed away, each contributing *something* to what now constitutes the wealth of the world! One hundred years hence every man, woman and child now living will be dead. The exceptions only prove the rule. Man, truly, is very productive, and there is nothing more certain than that he will die.

Your annual income on that business block is $20,000, more or less. You keep it well insured. You even have the *rental* insured. Not because if it were to burn your family would be paupers, or that you would experience other than slight inconvenience from it. It is productive property, liable to burn, and it is business like to protect such property. If you owned a *thousand* such blocks you could assume the risk, yourself; but you own but *one* block, and you can no more afford to carry the risk on one block than you can afford to carry one letter to San Francisco for *two cents.* The companies can carry the risk because they are carrying the same kind of risks on thousands of other blocks, and their receipts from *all* pay the losses on the *few* that burn, and there is still a margin left for profit.

Your block earns a handsome income. *You* produced the block. Which is the more valuable property, you or the block? Which is more liable to perish; the block by fire, or you by death? Which would be attended with the more disastrous consequences, in a strictly financial sense; the destruction of the block by fire, or your death, in the next thirty days? Would the destruction of the block, uninsured, impair or incumber the value of your other property? With no insurance on yourself, would not your death, within the next thirty days, impair the value of your estate at least twenty-five to fifty per cent.? The average duration of a *class* of lives is certain, but there is no certainty of the duration of *one* life. When you have your buildings and merchandise insured, you protect *yourself* against what *may* occur; but, when you have yourself insured, you protect your *family* against what *must* occur. Fire insurance is protection against a *possible* calamity; but life insurance is protection against an absolutely *certain* calamity.

One may possess those very rare and indefinable qualities of mind that always insure success. Everything he touches changes to gold dollars and a great many of them. When he purchases stocks, they are at the lowest; and when he sells, they are as mysteriously at the highest Under his magic touch wealth increases, he hardly knows how, so natural is it for him to control the wealth producing elements that surround him. When his plans ripen, they stand out in bold relief, emphatically his own, and are tenaciously carried out to a generally successful issue. He seems to be impelled by a force which he has no power or inclination to resist. He loves to watch the mental machinery within, working so admirably, and, with rare exceptions, accomplishing desired results. But this valuable machinery will not always last. His grasp of the lever will be gradually loosened. He will trust to others what he once thought could only be done by himself, and he thought rightly. At this juncture men of princely fortunes, by one single misstep, have lost all. Some of our wealthiest men, conscious of this approaching epoch, have "hedged," by investing largely in life insurance.

There are other younger business men, whose fortunes are not yet made, and who, utilizing the experiences of others, have invested quite extensively in Endowments, Tontines, Semi-Tontines and other forms of Life Insurance, paying for them during their *present productive periods of life.* These insurances, in the event of premature death, will constitute an estate, together with other accumulations, as large, probably, as if they had lived their full measure of days. These young men have learned that *men die,* and that they sometimes die in the full strength of manhood, when their prospects are the brighest, before their well matured plans have had time to work out expected results, and just when they have reached the threshold of success. They have seen such untimely deaths bring financial loss, and sometimes utter ruin, to bereaved families. It was like the freighted ship sinking in full view of the safe harbor; or, the costly building going up in smoke and cinders! These representatives of American enterprise are hopeful, for they have reasons to be, but there still remains a period of uncertainty between hope and accomplished results, and they have thus *bridged it over* by the only method known and approved by the best intelligence of the nineteenth century.

THE LAW OF MORTALITY.

"Mortality," says **Dr. Southwood Smith**, "is subject to a law, the operation of which is as regular as that of gravitation."

Mr. Babbage says: "Nothing is more proverbially uncertain than the duration of human life when the maxim is applied to an individual; but there are few things less subject to fluctuation than the average duration of life in a multitude of individuals."

Mr. Walford says that the average duration of life in Great Britain at the present time—1867—is 41 years; in France 40; in Sweden, 39; in other countries progressively downwards until the average throughout the world is found to be only 33 years. In Rome, thirteen hundred years ago, the average was much the same as in England now. We know, however, that the duration of life at all ages has increased considerably during the past century. Amongst the nobility and gentry of England, the expectation of life at the age of 84, is found to be four years; and, amongst the poor fishermen of Ostend it is precisely the same. **Mr. Walford** closes his remarks with the following remarkable statement:

"We have the very best of authority for stating, while the mortality of all the other epochs of life is affected by country, by station, and by a multitude of influences arising out of these and similar circumstances, the concurrent evidence of all observation shows that at this, and the like advanced ages, the mean term of existence is nearly the same in all countries, at all periods, and amongst all classes of society."

The Hon. Elizur Wright, in his fourth annual report to the Legislature of Massachusetts, says: "Observations on the population of particular localities, and of entire nations, on annuitants who have the strongest pecuniary motive to live, and who have often been selected for their strength of vitality, and on insured lives that have an almost equally strong pecuniary motive to die promptly, have resulted in scales of decreement differing so little from each other and from a regular curve, that one must be profoundly skeptical not to believe in the existence of a perfectly graduated scale, curve or law, which nature works after as her pattern or type."

MORTALITY TABLES.

The Mortality Table is the foundation upon which the science of Life Insurance is constructed. Without it the business would be entirely speculative. "Tell me a man's companions and I will tell you his character," says a distinguished writer ; and the same author also says : "Tell us the Mortality Table upon which an Assurance office is based, and it is equally possible—always assuming the existence of sound management—to predict its financial position and relative advantages."

A mortality table is made by observing the operations of the Law of Mortality as shown by the number of deaths at all the different ages in a province, kingdom, country or among insured lives, and then collating, analyzing and adjusting the results so obtained. The process of adjustment or graduation is upon the same principle that astronomers "*reduce*," as it has been termed, their observations to some common event or epoch. It is getting rid of a periodical cause of fluctuation and presenting a result not as it was observed, but as it would have been observed had that cause of fluctuation had no existence. Mr. Walford illustrates it substantially as follows :

Between the ages of fifteen and twenty-five, and even up to later ages, the mortality is kept down in large towns by the influx of healthy people from the country. Thus, in the city of London, the annual mortality amongst young women between the ages named, is only ***six per one thousand***; while in the surrounding counties it is ***seven to eight per one thousand***, and amongst young men in London, at the like ages, it is ***eight per one thousand***. The solution is found in the fact that healthy young women go from the country into London and other large towns, obtain situations, and, if taken sick, go back into the country to die. The effect is to make the larger towns look more healthy than the country, at these ages. Mortality tables constructed upon extensive data from town and country life would not be materially affected by such fluctuations ; but those based upon town observations, *only*, are certain to be more or less so, unless subjected to the processes of adjustment and graduation named. The mortality tables almost exclusively used in the United States are :

1. The Actuaries', or Combined Experience Table. —This is based upon the recorded experience of seventeen English Life Companies. It was deduced from 83,905 insured lives under the superintendence of a committee of distinguished actuaries appointed for that purpose, on the 19th day of March, 1838. The table was first published by Actuary JENKINS JONES in 1843.

2. **The American Experience Table.**—This table was constructed by Sheppard Homans, Actuary of **The Mutual Life Insurance Company, of New York**, from 1856 to 1871; author of "**The Contribution System of Dividends**," and, at the present time, President and Actuary of "**The Provident Savings Life Assurance Society of New York.**" The table is mainly based on results obtained among insured lives in America, but all the standard European tables were used in the processes of adjustment and graduation.

CHAPTER II.

ACTUARY.—ASSETS,—BROKERAGE.—COMMISSIONS.—STOCK COMPANIES.—MUTUAL COMPANIES.—MIXED COMPANIES.—CONTRIBUTION SYSTEM OF DIVIDENDS.—CASH DIVIDENDS.—REVERSIONARY DIVIDENDS, OR ADDITIONS.—EXPECTATION OF LIFE.—FORFEITURE.—LAPSE.—LOADING.—LOSS.—MORTALITY.

Accumulation.—When used in the "LEVEL PREMIUM SYSTEM," it means either "*reserve accumulation,*" or "*dividend accumulation.*" For a full explanation of the former, see pages 61 and 62. "*Dividend accumulation*" occurs when a policy holder, instead of using his cash dividends in part payment of premiums, leaves them with the company until some designated future time, when he can draw them out in one sum, together with the interest earned. When used in the "NATURAL PREMIUM SYSTEM," or in the "ASSESSMENT SYSTEM", of Life Insurance, it means a *mortality* fund, gradually increasing from year to year, in excess of what the mortality table indicates as necessary, to be used, however, in payment of death claims, if needed; or, to be drawn out by the insured at some designated future time ; or, to be applied in part payment of future premiums or assessments; or, applied in some *other* way designated in the policy or certificate of membership. The accumulation of such a fund is a wise precautionary measure by which the membership are held together, or by which death claims may be paid, that might be suddenly forced upon the company on account of excessive mortality from epidemics, etc., etc.

Actuary.—One who is proficient in that branch of Life Insurance, which is strictly of a scientific and mathematical nature. The **Actuary** of a *company* makes the rates, at all the ages, for $1,000 of insurance on the different kinds of policies issued by that company. These rates, when published in book form, are called the "*rate book,*" and, by consulting it one can ascertain how much it will cost, *the first year,* for any amount of insurance desired within the company's limit. The **Actuary** also calculates how much cash dividend his company may safely pay to each policy-holder at the next approaching policy anniversary. When a policy-holder desires to surrender his original policy for a smaller amount of paid up insurance; or, for cash ; or, in exchange for some other kind of a policy, the **Actuary** is consulted, and it is he who determines, subject to the approval of the board of management, what shall be done. It is the **Actuary** who, from time to time—once every year, *at least*—informs the company how much "*reserve accumulations*" it must have in hand to meet the requirements of law, etc., etc. A **State Actuary**, or the **Actuary of The Insurance Department** of a state, receives his appointment from the department, and his services are employed in this way: When a Life Insurance company desires to do business in a state in which it has not been operating, it makes application to the Insurance Department of that state for admission. It is then required to send to the department a schedule of all its policies in force, giving, in detail, the age of every policy-holder when insured; also, the date, amount and kind of policy. This schedule is given to the **Actuary** of the department, who is required "*to value*," as it is called, every policy described therein, according to the Table of Mortality and rate of interest adopted by the state as its standard of valuation. The valuing of a policy consists in ascertaining how much its "*reserve accumulation*" must be, at a certain date,—generally, December 31—, to comply with the requisitions of law. When every policy is thus valued, the different amounts thus obtained are added together, and the *total amount* constitutes what is called the "*policy liability*" of the company; to this are added the other liabilities,—admitted, but unpaid death claims, matured endowments, etc., etc.—, and the result shows the "*total liability*" of the company Then this total liability is critically compared with the company's "*gross assets.*" If the results prove satisfactory to the department, it issues a license to the company to do business in the state. If at *any* time the Department of Insurance become suspicious that any Life Insurance company doing business in the state is not sound, it can demand another examination as thorough as if the company were applying for admission into the state for the first time. The policies of all *home* companies have to be valued every year by the **State Actuary**. In various other ways the services of a competent actuary are made very useful to the department and beneficial to every policy-holder in the state.

Assets.—All the available funds and property of any kind belonging to a Life Insurance company. These are closely scrutinized by the Insurance Department of every state. Companies admitted to business are required to report to the department, on the 31st of December of every year, not only the *amount* of its assets, but also the minutest *details* of the same, and these reports must be sworn to.

Brokerage.—A percentage paid to an agent or solicitor, by a company, on the first year's premiums, *only*, of policies obtained by him, in lieu of future commissions on renewal premiums.

Commissions.—A percentage paid to an agent or solicitor on all premiums of policies obtained by him, for a specified number of years.

Company, Insurance.—There are three kinds of Life Insurance companies: STOCK COMPANIES, MUTUAL COMPANIES, and MIXED COMPANIES.

A STOCK COMPANY has for its basis a capital stock. The stockholders elect a board of directors, and they the officers who conduct the entire business of the company under the direction and supervision of the board. The rates charged for insurance are, nominally, *lower* than in the other companies. Policy-holders would pay less in a stock company than in most mutual or mixed companies, for the first few years; but, as all the margins and profits made in a stock company go to the *stockholders*, there are no dividends to reduce their premiums, so that after having been insured for *fifty years*, they still have to pay the same premiums as at first. But some *so-called* stock companies are really *mutual*. They organize on the basis of a nominal capital, so as to secure to the stockholders the control of the business, but in every other respect they are mutual companies, giving all the profits of the business, over and above what is necessary to run it, to the policy-holders.

A MUTUAL COMPANY is one that is nominally controlled by the policy-holders, *themselves*. Every policy-holder has the right to vote, in person or by "*proxy*," in the election of a board of directors. The largest and most successful Life Insurance companies on the globe are mutual companies, and their policy-holders have always had the right to vote at their annual elections; but their success and their present proud positions in the insurance world are owing to the fact that, from first to last their business has been largely controlled by a few men who have proved themselves equal to every emergency that has arisen, and faithful to the sacred trusts confided to them by the proxies of a numerous, intelligent and appreciative membership. The same can be said of other but younger companies that are rapidly coming to the front, and, juniors though they are and must always be, they even *now* claim superiority in some things over their seniors. In a *strictly* mutual company, the dividends are paid to its policy-holders, from whatever sources they may arise. The system is a popular one. It seems to possess certain elements of success not found in either the stock or the mixed companies.

A MIXED COMPANY is one that does business, nominally, on both the stock and the mutual plans. It is neither a purely mutual company, nor a strictly stock company. It is based on a stock capital, and therefore the policy-holders have nothing whatever to do with its management. Policy-holders who insure on the stock plan receive no dividends; those who insure on the mutual plan receive dividends.

Contribution System of Dividends.—This is a system by which the surplus of a company is distributed among its policy-holders, from year to year, according to the amount that each one of them has contributed to produce it. It was a wonderful discovery, and its authorship is conceded to the two eminent American Actuaries, SHEPPARD HOMANS and D. PARKS FACKLER; the former, now President and Actuary of The Provident Savings Life Assurance Society, of New York; the latter, Consulting Actuary for several of the leading Life Insurance companies of that and other states. The merits of this system of distributing surplus is shown by the fact that all the Life companies in the United States—we are not aware of a single exception—have adopted it. Before its discovery a policy-holder that had been insured in a company, twenty years, received no larger dividend, other things being equal, than did one who had been insured but five years. By this system, the older the policy, the larger the dividend. A policy-holder whose reserve accumulation in the hands of the company is $1,000, receives, from this source, ten times the amount that another would receive whose reserve accumulations were only $100.

Dividend.—For a full explanation of CASH DIVIDENDS, See pages 65—68. "*Reversionary dividends,*" or "*reversionary additions,*" as they are sometimes called, are paid up insurances purchased from year to year by cash dividends. To illustrate: Suppose one is insured on the ordinary Life plan, in a "Level Premium Company," and that his *cash dividend,* at the end of the first year, when he is thirty-five years old, is $38.54. This dividend *could* be used in part payment of the premium, just due; but, instead, he applies it to the purchase of paid up insurance. It would purchase, in some companies, exactly $100 of such insurance, payable when the original policy is payable—*at death.* At the beginning of the next year he starts off with the original policy, on which he is to pay premiums every year as long as he shall live, and he also has a little policy of $100 upon which he will never have to pay any premiums, and from which he will receive little dividends, probably, every year. Suppose he does the same next year, and that his cash dividend is then $39.31. He is now 36 years old, and although the dividend is a little larger than it was last year, he is one year *older,* and it will purchase only $100 of paid up insurance. The *rate* is higher at 36 than at 35. Suppose, at the end of a policy year, when his nearest age is 55, his cash dividend is $58.74. Because of his increased age, this much larger dividend will purchase only $100 of paid up insurance. At age 70, it would require a cash dividend of $76.60 to purchase $100 of paid up insurance. These several amounts of paid up insurance, purchased by the cash dividends, are called "*reversionary additions*," or "*reversionary dividends*."

Expectation of Life.—A term applied to the mean or average duration of the future life of a person, at any age, according to a given table of mortality.

Forfeiture.—The violation of some of the conditions of a policy, which gives a company the legal right to cancel its policy contract with the insured.

Lapse.—See Chapter VI.

Loading —A percentage added to the "*net premium*" for defraying the expenses of a company and to provide for a possible excess of mortality.

Loss.—A *legal* claim against a company arising from the death of one of its policy-holders. Matured Endowments, matured Tontine policies, and other policies partaking of the nature of Tontines, strictly speaking, are not losses.

Mortality.—Having a given number of persons of the *same age* living at the *beginning* of a year, the mortality is the number dying during that year. The *rate* of mortality is the ratio of the number dying, during a year, to the number that were living at the beginning of the *same* year.

CHAPTER III.

POLICY.—SINGLE-PAYMENT LIFE, WITH EXAMPLE.—FIVE-PAYMENT LIFE, WITH EXAMPLE.—TEN-PAYMENT LIFE, WITH EXAMPLES (1) AND (2).—FIFTEEN-PAYMENT LIFE.—TWENTY PAYMENT LIFE.—ORDINARY LIFE, WITH EXAMPLE.—TERM LIFE.—RENEWABLE TERM LIFE.—QUARTERLY RENEWABLE TERM LIFE.

Policy.—A contract between a Life Insurance company and one of its policy-holders, containing the terms and conditions on which the former indemnifies the beneficiary, or beneficiaries, named therein, against *financial* loss in the event of the death of the person insured; or, by which the company agrees to pay a certain sum of money when the insured shall attain a certain age. It is not possible here to even *name* the different kinds of policies issued by the companies doing business in this country. The following are the most common and popular forms :

SINGLE-PAYMENT LIFE.—This is a policy that is payable at the death of the insured, only. All the premiums are paid in one, *single sum*. If issued on the Stock plan, no dividends ; if on the Mutual plan, dividends are paid by the company to the insured every year during life. For $1,000 of insurance, at age 40, the Stock rate is, say, $367.70 ; Mutual rate, say, $430.19.

Example.—Policy No. 28,342 ; amount, $10,000 ; date of issue, April 8, 1863 ; premium, $4,077 ; age, 38. The annual cash dividends were used to purchase additional insurance. When the policy had been in force *sixteen* years, the "dividend additions" amounted to $6,020. Had he died, at that time, his estate would have received. $16,020.95, less $547.57!!

FIVE-ANNUAL PAYMENT LIFE.—This policy is payable at the death of the insured only. The premiums are required to be all paid during the first five years. If issued on the Stock plan, no dividends ; if on the Mutual plan, dividends are paid to the insured every year during life. For $1,000 of insurance, at the age of 40, the Stock rate is, say $75.87 annually ; Mutual rate, say $101.16 per annum, for *five years only*.

Example.—Policy No. 32,247 ; amount, $10,000 ; date of issue, June 4, 1864 ; annual premium, *for five years only*, $953.80 ; age, 39. His *cash* dividends, during the first fourteen years amounted to $2,257 34. After the first five years they averaged $100 per annum. The cash dividends, during the first *eight* years, were used to purchase additional insurance. From the eighth to the fifteenth year, inclusive, he gradually converted the additions from former dividends into cash and used it, together with the accruing cash dividends, in payment of premiums in the same company on another policy, and still had left at the end of 1878, additions amounting to $334. He had thus paid $2,296.23 in premiums on the other policy ! This policy can never be duplicated even by the company that issued it.

Ten-Annual Payment Life.—This policy is payable at the death of the insured only. All the premiums are required to be paid during the first ten years. If issued on the Stock Plan, no dividends; if on the Mutual Plan, dividends are paid to the insured, every year, during life. For $1,000 of insurance, at age 40, the Stock rate is, say, $47.43, per annum; the Mutual rate is, say, $59.17, per annum.

Example 1.—Policy No. 17,114; amount, $4,000; date of issue, August 6, 1856; annual premium for ten years, only, $189.92; age, 31.

The record of this policy from 1856 to 1878, inclusive—twenty-three years—is as follows: Total premiums paid during the first ten years, $1,899.20. The cash dividends were all used to purchase additional paid-up insurance. This additional insurance, thus purchased, amounted to $2.990.20 at the end of the twenty-second year! Had the policy then become a claim, by the death of the insured, his estate would have received from the investment $6,990.20. He had paid the company *less than* $1,900. These results can probably never be duplicated, as the period from 1856 to 1878 was an exceptional one for large dividends in all the companies, owing to the high rates of interest received on their reserves.

Example 2.—Policy No. 46,036; amount, $1,000; date of issue, May 22d, 1869; annual premium, for *ten years*, only, $52.72 ; age, 36. The history of this policy, from 1869 to 1885, inclusive,—seventeen years—, is as follows:

Year.	Annual Premiums.	Annual Dividends	Net Annual Payments.
1869	$52.72	$00.00	$52.72
1870	52.72	00.00	52.72
1871	52.72	4.24	48.48
1872	52.72	6.49	46.23
1873	52.72	8.91	43.81
1874	52.72	12.05	40.67
1875	52.72	14.63	38.09
1876	52.72	17.32	35.40
1877	52.72	19.79	32.93
1878	52.72	22.34	30.38
	$527.20	$105.77	$421.43

Year.	Annual Dividends.	
1879	$20.35	No more payments are required.
1880	21.95	
1881	14.08	
1882	10.53	
1883	8.08	
1884	8.16	
1885	8.36	
	$91.51	

Remark 1.—The company that issued this policy commences paying dividends at the end of the second policy year, when the third annual premium is paid ; so that, in the above policy, only eight dividends were available in payment of the *ten* premiums. These eight dividends amount to $105.77, and had they been equally distributed and used in paying the ten premiums instead of eight, the net gross amount paid would have been $421.48, as shown above. Thus it is seen that the eight dividends, *used as they were*, were equivalent to a *twenty per cent. reduction of premium*, from first to last.

Remark 2.—Since 1878 this policy has been a source of cash income. Dividends to the amount of $91.51 have already been received by the insured. The dividend of 1885 lacks only *seven cents* of being two per cent. of the entire cost of the policy, and the tendency is an increase hereafter.

Remark 3.—The cost of such a policy in a Stock Company, at the non-participating rate of premium, would have been $474.30, or thereabouts, *and no dividends!*

FIFTEEN-ANNUAL PAYMENT LIFE.—This policy is made payable only on the death of the insured. All the premiums must be paid during the *first fifteen years*. If issued on the Stock plan, no dividends ; if on the Mutual plan, cash dividends during life. For $1,000 of insurance, at age 40, the Stock rate is, say, $35.05 per annum ; the Mutual rate is, say, $45.29.

TWENTY-ANNUAL PAYMENT LIFE.—This policy is made payable only on the death of the insured. All the premiums must be paid during the *first twenty* years. If issued on the Stock plan, no dividends; if on the Mutual plan, cash dividends during life. For $1,000 of insurance, at age 40, the Stock rate is, say, $30.10 ; the Mutual rate is, say, $38.65.

ORDINARY LIFE.—This policy is made payable only on the death of the insured. Premiums must be paid during life. If issued on the Stock plan, no dividends ; if on the Mutual plan, cash dividends are paid every year—after the first or second—so long as the policy remains in force. For $1,000 of insurance, at the age of 40, the Stock rate is. say, $24.35 ; the Mutual rate is, say, $30.84. The rates are lower at younger, and higher at older, ages, as is the case in all other forms of policy contract.

Example.—Policy No. 55,904; amount, $2,000; date, 1868; annual premium, $92.00; age, 50. He paid fifteen premiums amounting to $1,380, which, less dividends of $401.32, and premium loan of $288.68 (canceled), made a net payment or cost of $690.00, exclusive of interest. He did not pay the premium due in December, 1883; but instead of taking a paid-up policy for $563.00, he allowed his insurance to be extended for 4 *years and* 117 *days*, making in all 19 years and 117 days' insurance, at an average yearly cost of $17.85 per thousand. The party insured died in August, 1885, more than *one year* after the lapse of policy, which, however, was promptly paid in full by the company.

TERM-LIFE.—This policy is made payable only on the death of the insured *within the term designated* in the contract. The term may be one, three or six months; one year, ten or twenty years. The policy contract may provide for renewal, at the expiration of the original term, on re-examination of the insured, and at advanced rate of premium, or not. This depends upon the practices of the company issuing it. A Term Life Policy is generally understood to be insurance for 10 to 20 years, with uniform annual premiums. No dividends; no paid-up insurance; no cash surrender value, and *no insurance* one minute after the designated term has ended.

RENEWABLE TERM-LIFE.—One single company issues a Renewable Term Life policy, as follows: Length of term, ten years, Uniform annual, semi-annual or quarterly premiums are required to be paid during the term. The policy contract is renewable after each term of ten years, at advanced rate, without medical examination, and the accumulated dividends of the last preceding ten years, if any, are applied to a uniform reduction of the next ten years' premiums. Definite provisions are made for paid up or cash surrender value, if desired, after the first three years. The annual rates for $1,000 of insurance are as follows: At age 20, $11.09; at 25, $12.64; at 30, $14.67; at 35, $17.36; at 40, $21.02; at 45, $26.14; at 50, $33.17; at 55, $42.66, and at 60, $55.64. The rates at intermediate ages are proportional.

Several companies issue a Yearly Renewable Policy. For $1,000 of insurance, at age 40, the premium the *first* year is $21.19; the *second* year, $15.71; the *third* year, $15.99; the *fourth* year, $16.29, and so on, gradually increasing from year to year, as the insured becomes older. No dividends, no surrender value in cash or paid up insurance,

QUARTERLY RENEWABLE TERM-LIFE.—Under this form of contract the policy is made payable only on the death of the insured within the term designated, and that term is THREE MONTHS.

CHAPTER IV.

ENDOWMENT INSURANCE.—QUESTIONS ASKED AND ANSWERED.—ASSUMED EXAMPLES.—ACTUAL EXAMPLES.

ENDOWMENT INSURANCE POLICIES.—These are issued in two general forms—(1), **Ordinary Endowments** ; (2), **Limited Payment Endowments.** In an Ordinary Endowment, the policy is made payable to the insured in ten, fifteen, twenty, twenty-five, thirty or thirty-five years after the date, thereof, provided he be then living to receive the money ; or, to his estate, or some beneficiary named, at the death of the insured, should it sooner occur. Premiums must be paid every year, less the dividends, if any, during the entire endowment period selected.

For a Limited Payment Endowment the conditions of the contract are precisely the same, *except* the premiums must all be paid in a less time than that named as the Endowment period. To illustrate : A twenty-year Endowment may be paid for in ten or fifteen, or even *five* years ; or, a thirty-five year Endowment may be paid for in thirty, twenty-five, twenty, fifteen or five years; or, any of these may be paid for in *one single premium.*

As these endowments, *in our best companies*, have proved to be compound interest investments combined with very cheap insurance—the insurance in some cases costing nothing at all—we have endeavored to make prominent these excellent characteristics in the following questions and answers :

What is Endowment Insurance?

It is Life Insurance for a limited time, usually ten, fifteen, twenty, twenty five, thirty or thirty-five years.

It is something like **Term Insurance**, is it not?

Yes, but in some respects radically different. In **Term Insurance** the policy is not paid unless death occurs during the term.

Isn't the policy paid, in **Endowment Insurance**, if death occurs during the term ?

Yes, or it is paid to the party insured, if living, at the end of the term, which is not the case in **Term Insurance**.

Then, in **Endowment Insurance**, one does not have "to die to win," as the saying is?

That's it exactly. In **Ordinary Life Insurance**, provided, always, that the conditions of the contract are complied with, the policy becomes a claim whenever death occurs. In **Term Insurance**, death must occur during the prescribed term or there is no claim, while in **Endowment Insurance**, the policy is paid at death, during the term; or, to the insured, if living, at the end of the term.

What is the cost of an Endowment, in comparison with other forms of Life Insurance?

It is considerably higher.

Why is it higher?

Because **Endowment Insurance** is **Term Insurance** combined with a compound interest investment. To illustrate: We assume that you are thirty-five years old, that you are insured under a twenty-year Endowment Contract, for $10,000—annual payment, say, $485.80. By one of the conditions of the contract, **you agree to pay $485.80**, every year, for twenty years, if you live; but, if you die at any time during the twenty years, no further payments are required after date of death. **The Company agrees to pay you $10,000** if living to receive it at the end of the twenty years; or, to **pay your legal representatives $10,000** soon after your death, if it occur within the twenty years.

Referring to Table No. 12, we see that $256.50 per year, at six per cent. compound interest, will amount to exactly $10,000 in twenty years. You understand, therefore, that if you live until the maturity of the Endowment, and receive the $10,000 from the company, you will have made an investment of $256.50 per year and actually realized six per cent. compound interest on the money thus invested, for the time it was with the company. When the company contracted to pay the $10,000 at the time and under the conditions specified in the policy, it guaranteed, absolutely, just such an investment to the extent of $256.50 per year. Nor was the guaranty alone conditioned upon your living and paying the premiums to the end of the twenty years; but, in the event of your death at any date during the twenty years, all the conditions of the contract having been fulfilled by you, the guaranty was that as much money should be paid to your representatives as you would have realized had you lived to loan out $256.50 every year for twenty years, at six per cent. compound interest.

This $256.50 of the Endowment Premium under consideration, is what we call the **investment element**. This amount, annually—or a larger sum, at a less rate of interest—must accumulate with the company at six per cent. compound interest, in order that the company may meet its obligations on the contract when it shall have matured.

But you are paying the Company *more* than $256.50 per year, and this excess is the cost of insurance. We assume that you are insured in a dividend paying company, and that you are using the dividends, from year to year, in reduction of the annual payment. Our better class of life companies have been paying on this kind of insurance, the last 20 years, a dividend of from 25 to 40 per cent. per annum, as an *average* for the whole time. Suppose, at the end of the twenty years, your dividends have averaged 33⅓ per cent. of the annual premium; we then have the following results:

Twenty-Year Endowment at Age 35:

Gross annual premium for $10,000	$485 80
Less the assumed average annual dividend	161 93
Net annual payment	$323 87
The **investment element** returned with six per cent. compound interest, end of twenty years, in the $10,000 paid by Company	256 50
Annual cost for $10,000 insurance	$67 37

At ages thirty, twenty-five, or twenty, with the same assumptions as above, the results would be as follows:

Twenty-Year Endowment at Age 30:

Gross annual premium for $10,000	$471 10
Less the assumed average annual dividend	157 03
Net annual payment	$314 07
The **investment element** returned, &c.	256 50
Annual cost for $10,000 insurance	$57 57

Twenty-Year Endowment at Age 25:

Gross annual premium for $10,000	$460 70
Less the assumed average annual dividend	153 57
Net annual payment	$307 13
The **investment element** returned, &c.	256 50
Annual cost for $10,000 insurance	$50 63

Twenty-Year Endowment at Age 20:

Gross annual premium for $10,000	$452 90
Less the assumed average annual dividend	150 97
Net annual payment	$301 93
The **investment element** returned, &c.	256 50
Annual cost for $10,000 insurance	$45 43

Equally satisfactory results can be shown in shorter or longer endowments. Table No. 12 gives the investment elements at certain rates of interest. In a ten-year endowment, for example, the annual premium for $10,000 at age 35, is, say, $1,025.10. Deduct from this the average dividend of the company, and from this result the investment element, $715.70, and the balance shows the cost of insurance ; and, similarly, with endowments running fifteen, twenty-five, thirty or thirty-five years. If the rate of interest assumed in our illustrations—6 per cent.—seems too high, use the investment elements at a lower rate, as shown in the table.

You have not failed to notice that, while the **Investment Element** in the foregoing examples is the same, the cost of insurance varies ; it is $45.43 per year, for the youngest age, and $67.37 per year, for the oldest. The difference in age does not affect the **Investment Element**, provided the amount and kind of Endowment are the same. But the cost of insurance is greater at the older ages. By referring to Table No. 18, you will see why. At age 25, less than seventeen out of one hundred die in twenty years; while at age 35, the death rate for the same time is twenty one.

A little further on will be found some examples of Matured Endowments. These should be carefully examined. Before you do this, however, we desire to make one or two points very clear. If successful in this the subject of endowments will be freed from many vexatious complications. You will now turn to Table No. 12. Until you understand this table, you cannot comprehend our explanation of endowments. With the table before you, look for 16 in the year column, to the right hand of which, in the column headed "*six per cent.*, you will find $36.75. This is the annual investment, which, if compounded annually at six per cent. interest, will amount to exactly $1,000 in *sixteen* years. In the same six per cent. column, at the right hand of 20, may be found $25.65. This is the annual investment, which, if compounded annually at six per cent. interest, will amount to $1,000 in *twenty* years. If you would multiply the result, you must multiply the annual investment. Ten times either of the above annual investments will produce ten times $1,000, or $10,000. In a similar manner, by this table, you can tell at a glance the required annual investment, which, if compounded annually at a certain rate of interest, will amount to $1,000, or any multiple of $1,000, in a given number of years not exceeding 50.

At age 40, an **Ordinary 20-Year Endowment** Policy, for $10,000, requires the payment of twenty annual premiums of $508.70, each, the rate varying a little in different companies. For convenience of illustration we divide this premium into two parts, as follows:

1. **The Investment Element**....	$256 50
2. **The Insurance Element**..............	252 20
Gross premium......................	508 70

In a policy like the above, every company agrees to do one of two things, provided, always, that the insured fulfill his part of the policy contract, viz. (1), it agrees to pay to the *insured* $10,000 at the end of twenty years, provided he shall then be living to receive it; or, (2), it agrees to pay to *somebody else* $10,000, provided the insured die at any time *during* the twenty years. Let it be assumed that such a policy has been issued; that the insured has lived the twenty years, and that he has received the $10,000 as stipulated in the contract. By again consulting Table No. 12, it will be seen that when the company paid the $10,000 to the insured, it simply returned $256.50 of every one of the twenty annual premiums paid, together with six per cent. compound interest on the same, for the entire time the money was in its hands !! It is a **six per cent. compound interest investment**, so far as $256.50 of the gross premium is concerned. And this was guaranteed by the company from the start, because it required precisely such an investment to produce the $10,000 which the company agreed to pay. Not only this, but had the insured *died* at *any* time after the payment of the first annual premium, and within the endowment period, the company agreed that it would pay to *somebody* as much as would be produced by such an investment. Living until the end of the twenty years, or dying during the twenty years, the insured was guaranteed, in the policy contract, the six per cent. compound interest investment described! We have now disposed of the **investment** element of the premium; but what has been done with the **insurance** element, $252.20? If this policy were issued by one of our best **mutual companies**, the average annual cash dividend, during the twenty years, probably equaled one-third of the gross premium. The gross premium is $508.70, and one-third of it is $169.57, which has been used in reducing the **insurance** element. Taking $169.57 from $252.20, leaves a balance of $82.63, the average annual cost of the $10,000 insurance. **A splendid investment! Very cheap insurance.** This is an assumed case, but you will see that the *assumed*, are not as good as the *actual*, results in the following examples of **matured endowments:**

Example 1.—Policy No. 6,014; amount, $8,000; date of policy, July, 1867; kind of policy, 16-year endowment requiring sixteen annual payments of $480.96, each; age of the party insured, 39 years.

He paid sixteen premiums amounting to........	$7,695 36
Less the dividends..............	2,043 07
Total net payments in sixteen years...........	5,652 29
Average net annual payment................	353 27
The annual investment which, if compounded annually, at six per cent. interest, will amount to $8,000 in sixteen years.........	294 00

Net annual cost of the insurance.............	$59 27
Net annual cost per $1,000....................	7 41

This endowment matured and was paid July 1, 1883. **The investment** was $294.00 per year for sixteen year. He realized six per cent. compound interest on it, the principal and interest amounting to $8,000. **The insurance** cost him only $7.41 for each $1,000 !!

Example 2.—Policy No. 52,988; amount, $5,000; date of Policy, March 5, 1870; kind of Policy, Ten-Year Endowment requiring ten annual payments of $529.75, each; age of the party insured, 39 years.

He paid ten premiums, amounting to..........	$5,297 50
Less the dividends..........................	1,593 35
Total net payments in ten years..............	3,704 15
Average net annual payment.................	370 42
The annual investment, which, if compounded annually, at six per cent. interest, will amount to $5,000 in ten years	357 85
Net annual cost of the insurance.............	12 57
Net annual cost per $1,000..................	2 51

This endowment matured and was paid March 5, 1880. **The investment** was $357.85 per annum for ten years. He realized six per cent. compound interest on it, the principal and interest amounting to $5,000. **The insurance** cost him only $2.51 for each $1,000.

Example 3.—Policy No. 37,589; amount, $4,000: date of policy, March 26, 1866; kind of policy, 15-year Endowment requiring fifteen annual payments of $302.12, each; age of the party insured, 40 years.

He paid fifteen premiums, amounting to.......	$4,531 80
Less the dividends..........................	1,656 55
Total net payments in fifteen years......... ..	2,875 25
Average net annual payment.............	191 68
The annual investment, which, if compounded annually, at six per cent. interest, will amount to $4,000 in fifteen years..........	162 12
Net annual cost of the insurance...............	29 56
Net annual cost per $1,000..................	7 39

This endowment matured and was paid March 26, 1881. **The investment** was $162.12 per annum, for fifteen years. He realized six per cent. compound interest on it, the principal and interest amounting to $4,000. **The insurance** cost him only $7.39 for each $1,000.

Example 4.—Policy No. 5,848; amount, $6,000; date of policy, December 26, 1865; kind of policy, 18-year Endowment requiring eighteen annual payments of $352.32, each; age of the party insured, 37 years.

He paid eighteen premiums, amounting to.....	$6,341 76
Less the dividends..........................	2,527 18
Total net payments in eighteen years.........	3,814 58
Average net annual payment.................	211 92
The annual investment, which, if compounded annually, at six per cent. interest, will amount to $6,000 in eighteen years........	183 18
Net annual cost of the insurance....	28 74
Net annual cost per $1,000.................	4 79

This endowment matured and was paid December 26, 1883. **The investment** was $183.18, per annum, for eighteen years. He realized six per cent. compound interest on it, the principal and interest amounting to $6,000. **The insurance** cost him only $4.79 for each $1,000.

Example 5.—Policy No. 2,541; amount, $1,000; date of policy, November 13, 1862; kind of policy, 20-year Endowment requiring twenty annual payments of $48.49, each; age of the party insured, 40 years.

He paid twenty premiums amounting to........	$969 80
Less the dividends.............................	358 93
Total net payments in twenty years............	610 87
Average net annual payment...................	30 54
The annual investment which, if compounded annually, at six per cent. interest, will amount to $1,000 in twenty years...........	25 65
Net annual cost of the insurance................	4 89

This endowment matured and was paid November 13, 1882. **The investment** was $25.65, per annnm, for twenty years. He realized six per cent. compound interest on it, the principal and interest amounting to $1,000. **The insurance** cost him only $4.89 for each $1,000.

In the *foregoing* examples, all the cash dividends were used in the reduction of annual premiums. In the *following* examples the dividends were used in the purchase, from year to year. of additions to the policies, payable with the policies.

Example 6.—Policy, No. 30,777 ; amount, $1,000; date of policy, February 1, 1868; kind of policy, 13-

Year Endowment, requiring ten annual payments of $85.50, each; age of the party insured, 22 years.

Total amount of policy and additions paid to the insured, by the company, February 1, 1881,	$1,282 78
Cash dividend paid him February 1, 1881......	34 97
Cash dividend paid him February 1, 1882......	26 15
	$1,343 90
His ten premiums improved at 5⅜ per cent. compound interest would have amounted at date of settlement to..................	$1,349 38

And he received in addition life insurance for thirteen years, for an increasing amount, ranging from $1,000 to $1,282.78!

Example 7.—Policy No. 45,352; amount $1,000; date of policy, April 28, 1869; kind of policy, 10-year Endowment requiring ten annual payments of $96.41, each; age of the party insured, 35 years.

Total amount of policy and additions paid to the insured, by the company, April 28, 1879	$1,218 88
Cash dividend paid him April 28, 1880.........	42 86
	$1,261 74
His ten premiums improved at 4⅞ per cent. compound interest, for the time, would amount to..............................	$1,264 36

And he received in addition life insurance for ten years, for an increasing amount, ranging from $1,000 to $1,218.88!

If the National Banks were to advertise that, upon depositing with them $256.50 every year, for twenty years, at the end of the 20 years the deposits would be returned, with six per cent. compound interest, amounting to **$10,000 for every depositor,** and if a small additional sum were deposited with each $256.50, they would pay, in the event of the death of a depositor, before the expiration of the 20 years, the whole amount of $10,000, sixty or ninety days after date of death, **what a stampede there would be to all our National Banks;** and yet, varying the figures to correspond with the different ages of persons and classes of policies, this is substantially what all the **better class of life companies are doing** every day in the year and every hour in the day, in offering these endowments to business and professional men and capitalists.

Semi-Endowment Policies.—By this form of insurance the face value of the policy is payable if the insured die within a certain number of years—usually ten, fifteen or twenty—but if alive at the end of that time, then only one-half of the amount, with accumulations, if any, will be paid to the owner of the policy.

CHAPTER V.

TONTINE INSURANCE.—SEMI-TONTINE INSURANCE.—EMERY MCCLINTOCK'S DESCRIPTION OF THEM.—SENATE RESOLUTION No. 100, OF THE OHIO LEGISLATURE.—APPOINTMENT OF A COMMITTEE OF INVESTIGATION.—MEMBERS OF THE COMMITTEE.—THEIR REPORT ON TONTINES AND SEMI-TONTINES.—EXTRACTS FROM SWORN TESTIMONY.—REMARKS, ETC., ETC.

Tontine and Semi-Tontine Policies. — The following explanation of these two forms of policies is from EMERY MCCLINTOCK, Actuary of the NORTH WESTERN MUTUAL LIFE INSURANCE COMPANY, of Milwaukee, Wisconsin, and it is so clearly stated, and so free from offensive partisanship that we gladly insert it for the benefit of our readers,

Tontine Policies are issued on any usual form, the same as ordinary policies, such as ordinary life, limited payment life, or endowment policies. They are issued at the usual rates of premium, and the only difference between such policies and ordinary policies lies in certain peculiar stipulations.

The first stipulation is as follows:

"No dividend shall be allowed or paid upon this policy until the person whose life is insured thereby shall survive the completion of its tontine dividend period, and unless this policy shall then be in force."

The period referred to is either ten, fifteen, or twenty years, according to the choice made by the policy holder in his original application. The effect of this stipulation is that each premium must be paid in full in cash, during the tontine period, without being reduced by dividends.

The second stipulation is:

"Previous to the completion of its tontine dividend period, this policy shall have no surrender value in a paid-up policy or otherwise.

The effect of the stipulations above quoted is to produce savings to the Company, first, in not paying out dividends, and secondly, in not issuing paid-up policies in case of lapse. The value of such savings, with their accumulations, is credited to the tontine policies which complete their respective periods.

Semi-tontine Policies form a separate variety, being like tontine policies as regards withholding dividends, but enjoying the same privileges as ordinary policies in case of lapse, as regards paid-up insurance.

How the Surplus is Ascertained.—An account is kept by the Company from year to year of the special savings derived, as above explained, from tontine policies; and a separate account is kept for semi-tontine policies. To keep in view the equitable rights of each tontine and semi-tontine policy, a provisional account or memorandum of its contributions to the undivided surplus is kept, including its share of special tontine profits, adding interest from year to year at the current rate used in the ordinary dividend calculations. The memorandum thus kept of each policy is subject to future rectification, and is not in the nature of a deposit account, nor does it create any liability, technically speaking, different from the usual duty of every company to distribute in due time its undivided surplus on equitable principles. The sum of all these memorandum accounts shows the total tontine surplus of the Company. The accounts for each calendar year cannot be made up until sixty days after December 31st, owing to the conditional right possessed by the holders of lapsed tontine policies to restore them within that time. By the end of March in each year, the tontine accounts of the previous year can be completed. Any member, who has been insured three years, who wishes to learn the present condition of the memorandum account kept in his own case, can do so by addressing the Company. A fuller description of the method of keeping the tontine accounts will be supplied to any member on request.

What May Be Done With the Surplus.—The holder of a tontine or semi-tontine policy may, at the end of his tontine period, presuming that he wishes to keep his policy in force, employ the accumulated surplus which may then be at his disposal in one of three ways:

1st. He can withdraw it in cash.

2d. He can employ its value in reducing the amount of the future annual premium payable. If his policy is an ordinary life policy, this is equivalent to purchasing an annuity for life equal to the amount by which the annual premium is reduced. The annuity is calculated for a larger annual amount than the mere interest on the money, but on the understanding that the Company is in no case to refund any part of it, except as stated, towards payment of premiums. Such an annuity will possess at all times an equitable value, and it is provided that in any year in which the premium so reduced is not paid in cash, the value of the annuity shall be drawn upon towards meeting it, so as to keep the policy in force. (Of course, the effect of this would be to make the subsequent premiums each proportionately larger.)

3d. He can, on furnishing satisfactory proof of good health, purchase with the surplus a non-forfeitable participating paid-up addition to his policy.

Endowments maturing at the end of the tontine period cannot be continued in force, but are simply paid off when due, with accumulated surplus.

OPTION OF SURRENDER AT END OF PERIOD.—If, at the end of the tontine period, the insured prefers to discontinue his policy, he can surrender it, either for cash or for paid-up insurance, according to his option. (If the paid-up policy exceeds the original amount, proof of good health will be required.) If he takes the cash, the Company pays him not only the accumulated surplus, but also the entire reserve held on the policy, arising out of his past payments. The amount of reserve which will be held and paid is inserted in the policy, but no stipulation is possible, of course, concerning the amount of the surplus which is to accumulate, nor does the Company undertake to make in advance any prediction concerning its probable amount.

This option of surrender, which gives the insured the benefit of every dollar in the Company's hands in any way pertaining to his policy, in case he wishes to discontinue, forms the most valuable feature of the tontine and semi-tontine plans of life insurance. On no other system is so sweeping a privilege obtainable. The more this point is reflected upon, the greater the advantage appears which it confers. It is to be exercised many years in the future, and such far distant subjects usually attract little thought, but on each such policy the time will come when this privilege, inserted at the beginning in the contract, will be found of the utmost importance. No one can now foretell his situation twenty years hence. He may need insurance then more than ever, or he may have no use for it at all. With this privilege, he finds himself on the one hand just as well off as if he had originally taken the policy for a longer term, and on the other hand, as if he had chosen an endowment maturing at the time. The tontine or semi-tontine policy combines the advantages of the life policy and the endowment, being adapted at all points to the contingencies of the future.

THE CHEAPEST FORM OF INSURANCE.—Where a tontine or semi-tontine policy is surrendered at the end of the period and the cash value taken, and the holder compares his payments with the sum returned to him, whatever the latter may be, he finds the net cost much less than he would have had to pay for the same insurance in the same company on any other plan. This is obvious on the surface; for he receives on surrender all the surplus, with interest, which would have been paid as dividends on the policy had it not been on the tontine plan, and also his share of the surplus, with interest, which would have been paid on the policies of members who have died or discontinued.

Tontine insurance, more than any other system ever devised, EQUALIZES the benefits of life insurance. The heirs of those who die early get a large return in any event, even without dividends;

while those who pay the longest, and have the premium paying burden of the whole period, receive all the dividends.

Since the results of tontine policies are more advantageous pecuniarily than on any other class of policies in the same company, the only question remaining for those who are satisfied of the benefits of the plan is, to choose that company which will afford him the best return for his money.

SENATE RESOLUTION NO. 100.

"*Be it resolved*, That the Insurance Commissioner of Ohio is hereby authorized and required, with three members (of this Senate), to be appointed by the President of the Senate, to proceed at once to the states where such Tontine insurance companies are located and doing business in Ohio, and examine into and report to this Senate, if in session, and if not in session, to the Insurance Department of Ohio, upon the matters relating to such companies, as hereinafter set forth. Said Committee, consisting of said Insurance Commissioner and Senators so appointed, shall have authority to procure such special assistant as shall be deemed advisable by them to carry out the provisions of this resolution."

The above resolution was adopted in the Ohio Senate, April 15, 1885. The matters about which investigation was to be made were as follows:

"*First*—Specially as to the amount of insurance issued to the citizens of Ohio upon the Tontine plan.

"*Second*—As to the amount of such Tontine fund placed to the credit of such policies.

"*Third*—As to the mode of keeping the Tontine accounts with all the policy-holders, and whether such fund, or any part thereof, can be appropriated by the officers of such companies for any purpose other than the purpose originally intended, and whether such fund or any part thereof has been so appropriated or in any manner misapplied; and generally as to the plans and methods of doing business by such companies both at the home office and in Ohio through agencies.

"*Fourth*—As to the credits of such companies upon policies of insurance, to be obtained, for the purpose of establishing a basis for taxation in Ohio."

The committee appointed under the foregoing resolution were as follows: Hon. Henry J. Reinmund, Superintendent of Insurance; Hon. S. P. Wolcott, Senator; Hon. Elmer White, Senator; Hon. A. C. Cable, Senator. Mr. Sheppard Homans, of New York, was appointed Special Assistant to the Committee.

The committee met at the office of the Equitable Life Assurance Society of the United States, at the company's building, 120 Broadway, New York, May 29, 1885, and during their investigations they examined the following companies, designated in their report as

TABLE NO. 1.

Tontine Companies doing business in Ohio.	Designation of Policies.
1.—Ætna, Hartford, Conn.........	Terminable Endowments.
2.—Equitable, New York, N. Y....	Tontine and Semi-Tontine.
3.—Home, Brooklyn, N. Y..... ...	Life-Rate Endowments.
4.—Metropolitan, New York, N. Y.	Reserve Endowments.
5.—Michigan Mutual, Detroit, Mich.	Life-Rate Endowments.
6.—Mutual, New York, N. Y.......	Five-year Distribution.
7.—New York, New York, N. Y....	Tontine and non-forfeiture Tontine.
8.—North-Western Mutual, Milwaukee, Wis....................	Tontine and Semi-Tontine.
9.—Penn Mutual, Phila., Pa........	Life-Rate Endowment.
10.—Union Mutual, Portland, Me...	Life-Rate Endowment.
11.—United States, New York, N. Y.	Tontine and Semi-Tontine.

"NOTE.—In the Tontine list are included all those companies in which surplus is accumulated for a number of years for the benefit of persistent survivors."

After finishing their labors two reports were made: one by the three senators, dated Columbus, Ohio, August 19, 1885; the other by Henry W. Reinmund, Superintendent of Insurance, and Sheppard Homans, Actuary, assistant to Committee, dated Columbus, Ohio, August 21, 1885. These two reports agree substantially, on all points of vital importance, and, as the latter is more full, in some respects, we give it preference, not having the space for both. It is as follows:

"The undersigned, while coinciding in the main with the views so well expressed by the Ohio Senators in the foregoing report, feel that in addition a resume or digest of the evidence obtained by the committee is desirable, for the information of the public. We bear cheerful testimony to the zeal and impartiality of the Senators, in securing information upon the important subject confided to us by the Legislature. The committee sought, and obtained, wherever practicable, testimony from the opponents as well as from the advocates of Tontine insurance, with the view of separating that which was the result of careful investigation and accurate knowledge, from that which may properly be attributed to mere sentiment, or in some few cases to ignorance or malice. The criticisms made by the opponents of the Tontine system of Life Insurance are mainly as follows:

(1.) That it is a gambling scheme.

(2.) That by harsh penalties in case of forfeiture it tends to deprive families of the protection which they otherwise would have obtained under ordinary policies.

(3.) That the expenses are greater in Tontine companies.

(4.) That the accounts with Tontine policy-holders are imperfectly kept, and that the funds may be misappropriated.

(1.) *As regards the charge that Tontine Insurance is a gambling scheme.*—Gambling, as usually understood, is a scheme by which one gets something for nothing—where no valuable consideration is given by the winner to the loser—where the gain to one is precisely offset by the loss to the other—and where the gain or loss depends not on the will or power of either party, but rather upon mere chance or skill. It is usually condemned as a vice, as subversive of public morals, as wicked and unlawful. Nothing in the evidence obtained by the committee shows or even tends to show, that such grave charges can justly be brought against Tontine Life Insurance. On the contrary, the evidence clearly proves that Tontine Companies derive solid advantages from Tontine contracts, and can safely promise, and in fact do give great and solid benefit to Tontine policy-holders. Statistics abundantly prove, for instance, that when applicants for insurance deliberately elect to pay larger premiums than are absolutely necessary, as Tontine policy-holders do when they elect to forbear the usual yearly dividends, they thereby give evidence, unconsciously perhaps, or by instinct, that they expect to live to enjoy the benefits promised in case of long life—in other words, they give evidence of superior vitality, which is more reliable in determining the value of the risk than the most skillful medical examination. It is clearly proven that the rates of mortality, and also the rates of lapses, or discontinuances, are far less among Tontine than among non-Tontine policy-holders. These constitute the solid advantages of Tontine contracts, and the companies can give, and in fact do give, in return, ample and compensating advantages in the way of larger dividends or surplus and larger surrender values than can be safely promised or given under ordinary policies.

Tontine and ordinary policies are precisely similar as regards the rates of premium charged, as regards the covenant by the company to pay in full the sum insured, and as regards the non-payment of any surrender value until two or three years have elapsed. They differ only in the following respects: Under a full Tontine contract the right is waived (for valuable consideration) to any surrender value or to any dividend of surplus until the end of the Tontine periods elected. Under a non-forfeiting limited, or semi-Tontine contract, the same right to a surrender value is given that attaches to an ordinary policy, but the right is waived (for valuable consideration) to any dividend of surplus until the end of the Tontine period selected. In other words, these contracts differ only in the amount of the penalty exacted in case of discontinuance and in the periods agreed upon for distributions of surplus among policy-holders.

No Life Insurance Company could, without endangering its safety, permit policy-holders to withdraw *at will*, in cash, their full reserves, or even a large fraction thereof, in case of surrender, because in case of a panic, for instance, resulting from losses in investments or from excessive mortality during an epidemic, the sound lives might withdraw, and only the impaired lives might remain. Without proper penalties to prevent sound lives from withdrawing, Life Insurance would be unsafe, and in fact impossible.

Penalties for the non-performance of contracts are essential to the well-being and security of society itself, and are by no means confined to Life Insurance. The company is bound by the strict letter of the policy contract. It cannot refuse to receive a premium, even if the person insured were on the brink of the grave. The policy-holder, on the contrary, may discontinue at will, and usually the performance or non-performance on his part of the conditions of his contract depends upon his own volition. The penalty for discontinuance is greater upon Tontine than it is upon non-Tontine contracts, but the companies claim that in the former case the increased penalty is amply offset by increased benefits. The difference is one of degree, not of kind. The principle is the same in both cases.

A Tontine policy-holder is somewhat like a special partner putting capital into a mercantile business for a term of years. He would not be allowed to withdraw his capital *at will*—that might ruin the business—but at the end of the partnership period he would have the right to withdraw his entire capital and his full share of profits. A Life Insurance Company could not permit a policy-holder to withdraw his full reserve at will, but by reason of the superior quality of Tontine risks, and as a proper compensation therefor, it can safely promise to pay in cash at the end of a long period, or periods named, in advance, the full reserve, in addition to the full share of surplus, in case of surrender. In other words, a Tontine policy-holder has the right, at stated times, to give up his insurance and withdraw his full equity in cash. This great advantage could not safely be promised under ordinary policies.

No complaints have been made by beneficiaries under death claims of forfeiture penalties, and but few from those who have completed their Tontine periods. In cases of early deaths the investments have yielded many hundred, perhaps several thousand per cent. In case of long life and performance of the conditions of the contract, the investment will yield far more under a Tontine than under an ordinary contract. It is claimed by the advocates of Tontine Insurance, that the benefits as between the long-lived and the shortlived are thus equalized. Only those persons who break their contracts feel aggrieved by the heavy penalties. To such it has been unfortunate, and the losses in many cases must have been heavy. There is no evidence, however, that there was any concealment by the company, or that the contract was not voluntary on the part of the applicant, or that he did not understand fully the penalties for non-performance as well as the benefits which might be expected from the performance of his contract. The applicant was left to select that form of insurance which he considered the best suited to his needs or his pocket. This is just as it should be. If an applicant has not confidence in his ability to keep up his premium payments, ordinary business prudence would impel him to select a semi-Tontine or an ordinary policy. If his object is simply to protect his family at the lowest outlay consistent with security, he may choose renewable term insurance where the investment element is eliminated. But as the senators well observed, he should not be deprived of his right to make his own selection.

It may be added that Tontine Insurance is allowed and practiced in every state in the Union, while in some states—notably in New York—the essential conditions of that form of contract are sanctioned by distinct legislative enactments.

(2).—*As regards the charge that Tontine contracts tend to deprive families of the protection which they otherwise would have obtained under ordinary policies.*—The whole testimony obtained by the committee disproves this charge. The rates of discontinuances, except in the first two or three years when the conditions of the two contracts are similar, are far less among Tontine than among non-Tontine policies, and this is easily accounted for. The penalty in case of lapse, and the reward in case of persistence, are both greater. The definite promise to pay a large sum in cash at the end of the Tontine period, as surplus and guaranteed surrender value, furnishes a substantial collateral, available, if necessary, to borrow money to pay premiums, and would thus enable a Tontine policy-holder to keep up his insurance when an ordinary policy-holder would be compelled to lapse, or to accept, (as a Semi-Tontine policy-holder might also do) a small paid-up insurance. Human nature is so weak that it often neglects duties which are for our own interest or benefit, unless there is a penalty for the non-performance, or a reward for the performance of the same.

(3.).—*As regards the charge that expenses are greater in Tontine Companies.*—Here, again, the evidence and statistical information disprove the charge. The heaviest expenses are generally those incurred at the time the policy is issued, and the greater the volume of new business the greater the apparent expenses. The Tontine Companies issued seventy-four per cent. of the new insurances in 1884, but their expenses are actually smaller than those of the non-Tontine Companies when compared to new business, or to insurances in force when properly classified.

(4.).—*As regards the methods of keeping the accounts, and the proper application of the funds.*—No evidence of wrong doing has been offered to the committee, or that the funds properly belonging to Tontine policy-holders are not managed with fidelity and integrity, and are not held intact for the benefit of the proper beneficiaries. In fact, no charge or complaint of this nature has been made or is known to the committee as having been made against any company. In conclusion, the evidence obtained by the committee demonstrates that the Tontine system of Life Insurance is lawful; that while the penalties exacted in case of discontinuance are greater than upon ordinary polices, the advantages in case of continuance are also greater. These penalties differ in degree, not in kind, and hence the term gambling is no more applicable to Tontine than to non-Tontine Insurance, and in fact is applicable to neither. The fulfillment of the Tontine contract is encouraged rather than discouraged by these penalties, and the greater benefits given on these contracts.

The companies generally might, with advantage, be more frank and full in statements to policy-holders affecting their interests; or, in other words, might, with advantage, take policy-holders more fully into their confidence. The best way to disarm and dispel adverse criticism, whether proceeding from honest doubt or ignorance, is by the simple logic of facts and figures.

Signed, HENRY J. REINMUND,
Superintendent of Insurance.
SHEPPARD HOMANS.
Actuary, Assistant to Committee.

Columbus. August 2, 1885.

Extracts from the Testimony given to the Committee.

Examination of the Equitable Life.

"NEW YORK, May 29, 1885.

MR. JOEL G. VAN CISE, being duly sworn, testified as follows: (Examined by Mr. Homans).

Q. You are one of the actuaries of the Equitable Society?

A. Yes.

Q, For how long a time?

A. I have been connected with the Society for eighteen years this fall. I have been one of the actuaries for about fourteen years.

Q. You have charge of the books and accounts and the calculations on Tontine policies?

A. Yes, sir.

Q. Please read to the committee the printed statement which you have just handed to me.

'As to policies in the Tontine classes, a special account is kept of the income and out go properly belonging to these classes separate from the other business of the Society, so that the amount of the Tontine fund, that is, the share of the whole amount of assets properly belonging to policies in the Tontine classes, can be ascertained at the end of each year. To do this the Tontine fund is credited with all premiums received from Tontine policies, is charged with a due proportion of expenses upon these premiums, receives credit for interest upon its accumulations proportionate to that made on the total funds of the company, and has to pay the losses by death (occurring among the Tontine policies only) and the claims of such policies as reach the end of their Tontine periods. At the end of each year the total amount of the Tontine fund, and the total amount of reserve necessary to have on hand to secure the original and absolute obligations under the Tontine policies, is calculated, and the difference between these amounts is the Tontine surplus, part of which belongs to the policies completing their Tontine periods in the year just entered upon, while a far larger part belongs to the far more numerous policies which will mature in the many succeeding years. As the Tontine policies, after completing their Tontine terms, leave the Tontine class and cannot participate in future divisions of surplus, the opportunity to correct in each future division any error made in previous distributions is taken away, and it is necessary to determine with accuracy the share of the surplus belonging to the outgoing members of the Tontine class. It would have simplified the calculation, perhaps, to have made separate classes for each year of issue of policies with the same Tontine period, so that there would be no mingling of the claims of policies leaving the class with the claims of policies having yet many years to remain in the class. But there was the insuperable objection to this plan, that in small numbers and even in numbers of considerable magnitude, irregularities will arise very troublesome in practice and giving rise to grave suspicions of unfairness, and it is therefore desirable in all life assurance calculations to take advantage of the largest averages attainable. It was therefore decided that all policies with the same length of Tontine period, no matter in what year issued, should be classified together for the purpose of determining the rate of dividends to be allowed, and the plan in detail was this: Rates of interest, of mortality, of lapses, and of management expenses, were assumed, approximating to the actual as nearly as possible. On the basis of these rates a calculation of what would be the surplus on policies taken out at every age and at the end of every year of their existence during the Tontine period was made, and tables of estimated surpluses for all possible contingencies formed. With these tables it is easy at the end of each year to calculate the expected surplus on each Tontine policy in force. The total of these expected surpluses, when compared with the total actual surplus as shown by the valuation of the Tontine policies, gives a ratio of the expected to the actual surplus; and applying this ratio to the estimated surplus by the tables on policies just maturing, we get the actual surplus to which they are entitled. The actual surplus for each policy whose Tontine term is not ended, could of course be calculated in the same way by applying the ratio to the estimated surplus on them as given by the tables; but as these policies cannot draw any surplus till their Tontine period is concluded, this detailed calculation would be useless; and it is sufficient to leave this surplus undisturbed to accumulate for another year when the same work of calculation and of distribution to the policies then maturing has to be repeated.'

Q. I will ask you if that statement is a correct statement of the way in which you have made the estimates, made up the accounts, and credited individuals who are entitled to a credit under Tontine policies?

A. Yes.

Q. Has any departure ever been made in any Tontine policy or Tontine class, from the principles laid down in that printed statement?

A. No, sir.

Q. I would like to ask you if there has ever been any compulsion or persuasion on the part of the officers in the case of any individual policy, or any class of policies, to alter or depart from the principles, as laid down there?

A. No, sir.

Q. And this printed statement, which is copied here, is the correct explanation of the method adopted by the EQUITABLE LIFE ASSURANCE SOCIETY, in dealing with all its Tontine policies?

A. Yes, sir; it is printed for the information of its policy-holders, on the Tontine plan.

Q. By Mr. Homans: Am I correct in this: that in this company the Mortality against Tontine policies only is charged against the Tontine fund, whereas, in the New York Life, for instance, they assume the average Mortality in the Company, and charge the average rate against the Tontine fund?

A. It is true that our Tontine policies and Tontine classes only pay the death losses occurring in those classes. That is true, according to our calculations. What you say in regard to the other Companies—the New York Life Company, for instance

—is substantially true. Their dividend calculations are based upon the fact of an average Mortality through the Company, whether it is Tontine or Ordinary Policies. The same is true with the Northwestern.

Q, As I understand it, in the policy-contracts made with the Tontine policy-holders, you covenant to charge only the Mortality arising from members of the Tontine class ?

A. I do not know that that is covenanted in the application of the policy, but it has been set forth in all our circulars and publications.

Q. And in making these awards of surplus, you have had strict regard to that peculiarity ?

A. Made the exact calculations ; charged only for the death losses actually paid.

Q. One point of inquiry that is submitted to this committee, is not only the question as to how the Tontine accounts are kept, but the question is asked whether, in the appropriation of the surplus, any portion of the Tontine fund has been appropriated, or in any manner misapplied, contrary to the agreement ?

A. Not one dollar.

Q. And that in all the Tontine accounts you have put to the credit of the fund the total premiums received on Tontine policies, you have charged that fund with the average expenses of the Society on its business, and with the actual death claims paid among the members of the Tontine fund, and have credited the fund with the average rate of interest received by the Society on its investments ?

A. Yes, sir ; no departure has been made from that rule.

From schedule "A" given by the New York Life to the Senate Committee, showing the comparative rate of discontinuance of insurance—lapse—of Tontine and non-Tontine, made up from the company's actual experience for 10 years upon policies issued in 1872 and 1873, we obtain the following interesting and instructive facts :

Amount of Tontine Insurance for which premiums were paid, first year.............	$17,889,000
Amount of non-Tontine Insurance for which premiums were paid, first year..........	$19,748,000
Total Tontine Insurance remaining in force, end of 10th year, (55 per cent. of original amount)...............................	$9,865,000
Total non-Tontine Insurance remaining in force, end of 10th year, (31 per cent. of original amount)........................	$6,064,000

From schedule "B" we gather the following facts with reference to dividends upon Tontine and Non-Tontine policies in Ohio, during a period of 10 years :

EXAMPLE 1.—POLICY NO. 109,314; AMOUNT, $3,000; DATE, NOV. 7, 1874; AGE OF THE INSURED, 31; ANNUAL PREMIUM, $70.05; **Ordinary Life Tontine.**

(1.) —Premiums received in 10 years............. $700.50
(2.) —Tontine dividends in 10 years............. 269.79
Per cent. of (2) to (1), 38.

EXAMPLE 2.—POLICY NO. 118,402; AMOUNT, $5,000; DATE, FEB. 28, 1876; AGE, 31; ANNUAL PREMIUM, $116.75; **Ordinary Life, Non-Tontine**

(1.)—Premiums received in 10 years........... $1,167.50
(2.)—Dividends paid in 10 years............... 184.49
(3.)—Dividends paid at 6 % comp. interest.... 235.68
Per cent. of (3) to (1), 20.

EXAMPLE 3.—POLICY NO. 111,458; AMOUNT, $1,000; DATE, FEB. 23, 1875; AGE OF THE INSURED, 40; ANNUAL PREMIUM, $31.30; **Ordinary Life, Tontine.**

(1.)—Premiums received in 10 years............. $313.00
(2.)—Tontine dividends in 10 years.... .... 110.68
Per cent. of (2) to (1), 35.

EXAMPLE 4.—POLICY NO. 117,137; AMOUNT, $2,500; DATE, DEC. 18, 1875; AGE, 40; ANNUAL PREMIUM, $78.25; **Ordinary Life, Non-Tontine.**

(1.)—Premiums received in 10 years..... ..... $782.50
(2.)—Dividends paid in 10 years.................. 118.96
(3.)—Dividends paid at 6 % comp. interest...... 151.73
Per cent. of (3) to (1), 19.

EXAMPLE 5.—POLICY NO. 110,368; AMOUNT, $3,000; DATE, DEC. 28, 1874; AGE OF THE INSURED, 54; ANNUAL PREMIUM, $171.06; **Ordinary Life, Tontine.**

(1.) —Premiums received in 10 years...........$1,710.60
(2.) —Tontine dividends in 10 years......... ... 610.00
Per cent. of (2) to (1), 36.

EXAMPLE 6.—Policy No. 116,177; amount, $1,000; date, Oct. 19, 1875; age, 54; annual premium, $57.02; **Ordinary Life, Non-Tontine.**

(1.) —Premiums received in 10 years............. $570.20
(2.) —Dividends paid in 10 years................ 77.02
(3.) —Dividends paid at 6 % comp. interest..... 97.78
Per cent. of (3) to (1), 17.

EXAMPLE 7.—Policy No. 111,776; amount, $1,000; date, March 10, 1875; age of the insured, 47; annual premium, $71.25; **10-Year Life, Tontine.**

(1.)—Premiums received in 10 years............. $712.50
(2.)—Tontine dividends in 10 years.............. 193.03
Per cent. of (2) to (1), 27.

EXAMPLE 8.—Policy No. 89,074 ; amount, $2,000 ; date, May 2, 1872 ; age, 46 ; annual premium, $138.52 ; **10-Year Life, Non-Tontine.**

(1.)—Premiums received in 10 years........... $1,385.20
(2.)—Dividends paid in 10 years............... 163.12
(3.)—Dividends paid at 6 % comp. interest..... 201.11
Per cent. of (3) to (1), 15.

EXAMPLE 9.—POLICY No. 107,789; AMOUNT, $2,000 ; DATE, AUG. 12, 1874 ; AGE OF THE INSURED, 30 ; ANNUAL PREMIUM, $60.72 ; **20-Year Life, Tontine.**

(1.)—Premiums received in 10 years.... .... $607.20
(2.)—Tontine Dividends in 10 years............. 219.60
Per cent. of (2) to (1), 36.

EXAMPLE 10.—POLICY 103,563 ; AMOUNT, $3,000 ; DATE, JAN. 14, 1874 ; AGE, 32 ; ANNUAL PREMIUM, $95.22 ; **20-Year Life, Non-Tontine.**

(1.)—Premiums received in 10 years............. $952.20
(2.)—Dividends paid in 10 years................. 135.64
(3.)—Dividends paid at 6 % comp. interest...... 170.68
Per cent. of (3) to (1), 18.

EXAMPLE 11.—Policy No. 91,599 ; amount, $5,000 ; date, Aug. 17, 1872 ; age of the insured, 30 ; annual premium, $242.65 ; **20-Year Endowment, Tontine.**

(1.)—Premiums received in 10 years............ $2,426.50
(2.)—Tontine dividends in 10 years............ 928.79
Per cent. of (2) to (1), 38.

Example 12.—Policy No. 88,387 ; amount $1,000 ; date, April 5, 1872 ; age, 30 ; annual premium, $48.53 ; **20-Year Endowment, Non-Tontine.**

(1.)—Premiums received in 10 years............. $485.30
(2).—Dividends paid in 10 years................ 67.38
(3).—Dividends paid at 6 % comp. interest...... 84.25
Per cent. of (3) to (1), 17.

The preceeding examples are given to illustrate the marked difference between the dividends of the Tontine policies and those of non-Tontine policies, when issued at *about* the same age, on the same plan, and having been in force the same number of years. Comparing examples (1) and (2), it will be seen that the

Tontine surplus on the former, at the end of 10 years, is 38 per cent. of all the premiums paid, while the dividends paid on the latter, the non-Tontine policy, improved by six per cent. compound interest, amount to only 20 per cent. of the premiums paid during the same number of years! By comparing (3) with (4); (5) with (6); (7) with (8); (9) with (10), and (11) with (12), a corresponding marked difference is observed between the dividends of **Non-Tontine**, and the accumulated surpluses of **Tontine**, policies, in the *same company*. In *another* company, while the per cent. of *difference* between the Tontine and non-Tontine policies might not vary materially from that shown above, yet the dividends themselves might possibly be very much less, or considerably greater, than those shown in these examples, on the same kind of policies issued at the same ages, and having been in force the same number of years. Leaving out the Massachusetts companies, *nearly* all the Life Companies doing business in the United States have incorporated, in one way or another, the Tontine principle, and, if one wants a Tontine policy, he should exercise a reasonable amount of caution and good common sense in the selection of a company. A company that gives large dividends on the ordinary kinds of policies can give much larger on the same kinds when *Tontined;* and, a company that pays but meagre dividends on the usual forms, adopting perhaps the Tontine system to "*cover up*" its small surpluses, cannot be relied on for large returns of surplus under the Tontine forms of insurance.

Premiums.—The sums required to keep a policy in force, according to its conditions. In "The Level Premium System" of Life Insurance, every premium is composed of *three elements*, the Reserve Element, the Mortality Element, and the Expense Element. The annual premium on an ORDINARY LIFE POLICY, for $10,000, at the age of 35, is, say, $264.90. This is made up as follows:

1. THE RESERVE ELEMENT....................	$110.39
2. THE MORTALITY ELEMENT..................	88.27
3. THE EXPENSE ELEMENT....................	66.24
GROSS PREMIUM......................	$264.90

See page 61, for a full explanation of each of these elements. The three elements combined make up what is called the *gross premium.* The first *two* elements, combined, amounting to $198.66, make what is called the *net premium;* and similarly with reference to any other premium for any kind of a policy issued under The Level Premium System.

Premium Notes.—Notes given by policy-holders in lieu of a part of the *cash* payment of the premium. These, if not paid or canceled by future dividends, are usually deducted from the amount issued in case of death, or at the maturity of an endowment.

Surplus.—The sum left, after providing for the liabilities—present and prospective—of a company.

Value of a Policy—The Reserve.—The *net value* of a policy is the difference between the net single premium for the sum insured at the age of the policy holder, when the policy is valued, and the present value of all future net premiums calculated to be received. The *gross value* of a policy is the difference between the net single premium, as given above, and the present value of all future *gross* premiums to be received on the policy.

Owing to a fixed law governing these reserves, life insurance mathematics enables one familiar with it to tell, not only the *present*, but also the *future*, net value of any kind of a policy. A tabulated statement of the yearly net values, from the present to any future date, is called an "ABSTRACT OF NET VALUES" for that policy. Some of the advantages of such an abstract are :

1. **It names the amount** of cash held by a company in the "*Reserve Accumulations,*" from year to year, to the credit of a policy, for a term of years.

2. **It indicates** the equitable cash surrender value of a policy, from year to year, for a designated period of time, commencing with *the present.* The cash surrender value is generally from 30 to 95 per cent. of the reserve accumulations.

3. **It indicates** the amount of paid-up insurance that should be given, if desired, in exchange for the original policy.

4. **It indicates** the amount of *cash loan* that could safely be made on a policy, if assignable, as collateral security; one-half to three-fourths of the *reserve accumulations* would be a safe loan.

5. **It is a safe guide** to a correct decision on any proposed changes affecting present insurance.

6. **It enables one** to closely approximate the loss on a tontine policy, if the required number of premiums be not paid, as specified in the contract.

7. **It gives a correct basis** for dividends, if any, paid by companies in the hands of Receivers.

8. **Such an Abstract** makes its owner thoroughly intelligent, at all times, with reference to his Insurance. It is protection to the insured ; it is protection to his family.

9. **Without one of these Abstracts,** for each policy in force, one possesses property the cash value of which he knows

little or nothing. He is annually making cash deposits with no definite information as to the balances in his favor. The *cost of insurance* is the difference between the actual amount of cash premiums paid and the cash surrender value of the reserve accumulations to the credit of the policy. One is supposed to know what he has paid. An Abstract tells him the amount of his reserve accumulations.

LIFE INSURANCE FAILURES.

In a pamphlet, entitled "**Life Insurance; its history in the United States during the last half century.**" Published by the Globe Newspaper Company, Boston, Mass. 1885, is the following:

"In 1860 there were but fifteen Life Insurance Companies doing business in the country, and all but two of these companies are doing business now. In 1865 the number had increased to twenty-five. From this time there was a perfect deluge of additions to the companies. By 1871 there were seventy-two companies trying to do a business, which might well have been left to the original fifteen. There seemed to be a perfect craze. Each city must have its Life Insurance Company, and one being organized another must become its rival. Men who had failed in everything else thought that because there had never been a failure in Life Insurance it was their field. Men who knew nothing about the business organized companies, bought furniture and books, and set up shop as a Life Insurance Company. The business was tampered with to an extent which had never fallen to the lot of any other business. Of the seventy-two companies in 1871, it is probable that not thirty of these had educated Life Insurance men at their heads. What could one expect as a result of this craze? Could one suppose that it would meet a fate different from that of all other business handled by men who know nothing of it? Let any sensible man answer the questions. Could one have expected these companies to succeed? People do not buy their hats of shoemakers, nor do they buy shoes of tailors. A farmer or a butcher could undoubtedly cut off a leg, but he would be sure to kill his patient, A well educated physician would surely make a failure in trying an intricate law case, and an expert attorney would doubtless be capsized in trying to sail a boat. The trouble, and the sole trouble with the mushroom Life Insurance Companies was that men undertook to do what they did not know how to do, and they failed, just as it was certain that they would fail."

"Taking every organization that ever did any business in Life Insurance, and the record is that seventy-seven companies have been in the business that are not now in the business. These companies are as follows: (Here is a list of these companies.) There have been a few other futile attempts to establish a Life Insurance Company, but the foregoing is a list of the companies that came before the public for business, and that did business of any consequence."

"Some of the above-named companies failed outright, some of them reinsured their risks in other companies, which afterwards failed, others of them reinsured their risks in companies which are solvent, and which have carried out all of the original contracts, and some of them did not do any business at all. The following table shows the assets of fifteen of the larger of the companies at the last annual report, before they ceased business. The assets of the other companies are stated with just as much precision, but are placed in one sum:

Knickerbocker, N. Y.	$6,033,231
North American, N. Y.	5,789,074
Globe, N. Y.	3,613,291
Continental, N. Y.	6,229,484
Security, N. Y.	3,683,186
Life Association, Mo.	3,043,538
St. Louis Mutual, Mo	6,195,329
Universal, N. Y.	3,542,320
Guardian, N. Y.	3,976,976
New Jersey Mutual, N. J.	1,808,882
Atlantic Mutual N. Y.	1,252,016
Widows' and Orphans', N. Y.	1,599,068
Republic, Ill.	2,034,541
World, N. Y.	344,258
All other companies	11,493,145
Total	$60 638,339

"It will thus be seen that the total assets of all the companies that have failed in this country, given in the last annual report before they failed, was about $60,000,000. But, as before said, in a number of cases the risks were safely reinsured in other companies. The amount of these reinsurances, at a safe estimate, would reduce the amount to $40,000,000. Then, again, the failures were not absolute. In some cases nearly the whole liability was saved. In others a large portion was saved. It is not probable that over half the amount was really lost. Still, it may be, and probably is, true that $25.000,000 have been lost by those Life Insurance Companies that failed."

"When we look at the enormous business of Life Insurance in this country, and at the great good it has accomplished, the life insurance failures seem very small compared with the failures of banks in the last forty years, or with failures in any other class of business, the amount is small indeed."

The article then goes on to state the amount of losses that these companies paid while doing business. They are given in detail and amount to $41,208,015. It concludes with the following:

"Compare the amount of money lost by Life Insurance Companies which have failed, and the good accomplished by these very companies in the payment of over $41,000,000 of losses, and give credit where credit is due. Can any other business show as much good accomplished where the business has resulted in failure? But there is another perfectly just way to look at the money lost by failed Life Insurance Companies. It is a large estimate to call the amount $25,000,000. The Life Insurance Companies, as has been shown previously, have assets of about $500,000,000. They have paid dividends of about $250,000,000, and they have paid in purchase of policies before maturity about $150,000,000. If this amount be added to the amount used in expenses of management, we may say that the Life Insurance Companies of this country have handled about $1,500,000,000, and that, in doing so, some inexperienced men, who engaged in the business and failed, lost $25,000,000. Take the business in any way, look at it from all sides, and then make the record, and tell the results.

"Let the record be told as it is. Say it boldly, Between *one* and *two* per cent. of the money handled by the Life Insurance Companies has been lost by bad management. If the wisest men in the world had conducted all of the business, we could not have expected better results. Let any man who is disaffected as to life insurance, because some companies have failed, look at the facts as they are, and he will forever after compliment the business rather than criticise it adversely. The result is in favor of the business. It is complimentary in every way."

LIFE INSURANCE EXPENSES.

The following figures with reference to the comparative expense of Life and Fire Insurance companies are compiled from tables found in the Insurance Year Book, 1885–6; those referring to Railroad corporations, from Poor's Manual, 1885:

Total income of 47 **American Life Insurance Companies**, from 1879 to 1884, inclusive, **six years**	$532,899,994
Total **premium** income for the same time	377,639,310
Total **expenses** for the same time	77,217,951
Ratio of expenses to total income	14½ per cent.
Ratio of expenses to *premium* income	20⅜ per cent.
Total income of 311 **American Fire and Marine Insurance Companies**, from 1879 to 1884, inclusive, **six years**	$84,505,401
Total expenses for the same time	26,877,298
Ratio of expenses to total income	31⅘ per cent.
Total income of 24 **Foreign Fire and Marine Insurance Companies** doing business in the United States from 1879 to 1884, **six years**	$26,322,374
Total expense for the same time	8,107,447
Ratio of expenses to total income	30 7/10 per cent.
Total gross traffic earnings of the Railroad companies of the United States from 1880 to 1884, inclusive—**five years**	$3,680,182,323
Total net traffic earnings the same time	1,369,754,581

Total expenses for same time.............	2,310,424,742
Ratio of expenses to gross traffic earnings.	62¾ per cent.

The **Hon. Elizur Wright**, in 1863, said:

"The proper office expenses of the companies, apart from the use of the press to enlighten the public mind, are usually very moderate compared with those of most other moneyed corporations. To these must be added taxes and legal expenses, indispensable to protect the common fund against the raids of fraud."

Also the following:

"The expenses of management do not ordinarily increase in proportion to the business, but it is in the largest companies that the largest percentage of the premium has either returned to the policy-holders or is accumulated for their benefit."

These statement are doubtless as true to-day as in 1863, as shown by the comparison just made of the expenses of Life Insurance companies with those of Fire and Marine companies and Railroad companies. But, as a safe test of the economy of one life insurance company with that of another, in matters of expense, the comparison of expenses with total or premium income is questioned by some of our best thinkers on the subject.

Mr. Wright said, in 1873:

"When two companies are to be compared in regard to the economy of their working expenses, comparing their respective ratios of expense to either total or premium receipts is about as idle as it would be to count the buttons on the clothing of their respective presidents."

One of the oldest, most conservative, and best managed Life Insurance companies in the United States takes the position that the **ratio of gross insurance expenses to net insurance claims met**, during any year, *is the only clearly intelligible and scientific test of the economy of expenses.* The company illustrates this new test by reference to its own record of business in 1884, as follows:

Gross expenses	$360,170.17
Deduct investment expenses................	74,757.00
(1) Gross insurance expenses......	285,413.17
Gross death claims	973,693.00
Deduct the part paid by premium reserve....	328,217.49
(2) Net death or insurancc claim............	645,475.51
Exact ration of (1) to (2)....................	44.2 per cent.

"An inspection of these figures is sufficient to show the principle involved, which is simply to distinguish INSURANCE from IN-

VESTMENT expenses, so that it may be seen that each branch of business has been conducted with due economy."

"Under ordinary circumstances, INSURANCE EXPENSES approaching the full value of insurance furnished, or amount of insurance claims paid, should be regarded as extravagant; and INVESTMENT EXPENSES so large as to defeat the realization of a fair rate of interest on investments should also be so regarded."

This new test is further illustrated by the company, as follows:

"This company's ratio of gross expenses to gross income for 1882 was 12.7 per cent., and to the mean amount of its policies in force, 0.57 per cent. The reader will at once perceive that these figures convey no conclusive or practical idea to him, such as he is given when he is informed that the INSURANCE EXPENSES bear a certain proportion to the INSURANCE CLAIMS PAID. Expenses may be incurred by a company amounting in a given year to more than 100 per cent. of the insurance claims paid, or real insurance service rendered by it, in the same year, which, of course, would be highly extravagant, and yet the extravagance might escape detection in a comparison with income, or the amount of policies in force; for the amount of expenses, notwithstanding their extravagance, would still be far below either of these amounts."

In illustration of the unreliability of the ratio of gross expenses to gross receipts or premium income, as a test of the economy of one Life Insurance Company as compared with another, the reader is referred to the official report of the Insurance Commissioner of Massachusetts, Jan. 1, 1874, pages xxxii to xxxvi, inclusive. In the example there cited, by a skillful manipulation of figures, the ratio of expenses to gross receipts was reduced from 14.38, the correct ratio, to 8.76 per cent.; and the ratio of expenses to premium receipts was reduced from 20.16, the correct ratio, to 10.6 per cent.!

CHAPTER VI.

THE LEVEL PREMIUM SYSTEM.—ITS DISTINGUISHING CHARACTERISTICS.—REQUISITES FOR SOUNDNESS AND PERMANENCY.—ANALYSIS OF A PREMIUM.—THE RESERVE ELEMENT.—THE MORTALITY ELEMENT.—THE EXPENSE ELEMENT.—SOURCES OF DIVIDENDS.

SYSTEMS OF LIFE INSURANCE.

Three systems of Life Insurance are operated in this country under the protection of law. They are **The Level Premium System**, sometimes called "Old Line"; **The Natural Premium System**, and **The Assessment System**. These are discussed in the following pages in the order named.

I. The Level Premium System.

DISTINGUISHING CHARACTERISTICS:

1. **The premium is required to be paid** *in advance.*
2. **The contract between the company and the insured is called a** *"policy."*
3. **The policy always designates a definite sum to be paid by the Company to the beneficiary, or beneficiaries, named therein.**
4. **The premium is a** *"level premium;"* **that is, it is the same from year to year, during the premium paying period,** *unless reduced by dividends.*
5. **The policy-holder is never insured for the full face value of his policy and additions. His insurance is only for a sum equal in amount to the** *difference* **of these and their reserves.**

REQUISITES FOR SOUNDNESS AND PERMANENCY.

a.—**The premium must be based on safe assumptions of future mortality, interest and expenses.**

To illustrate.—Let it be required to make an annual premium, at age 40, for $1,000 of insurance, on the Ordinary Life Plan, basing it on the Actuaries' Table of Mortality and 4 per cent. interest. It is first assumed that, of the 78,653 persons living, at age 40, at the beginning of the year, 815 will be dead at the end of the year, and, also, that the nnmber living and dying every year, thereafter, will be as represented in the table. The assumption is that the future mortality of the *Company* will be as thus represented and this assumption is regarded, by all competent actuaries, the world over, as a perfectly safe one. It is also assumed that 4 per cent. compound interest will be received, by the company, on the reserve accumulations of the policy, and this is also regarded as a safe assumption. On these assumptions of future mortality and interest, by a process not necessary to explain here, the *net* annual premium is found to be $23.68. It is then assumed that $7.89, annually, will be a safe contribution for expenses. Adding these two, the result is $31.57, which is the *gross* annual premium, at age 40, for $1,000 of insurance, during life. The assumption of future expenses is entirely arbitrary and varies with different companies, ranging from 25 to 40 per cent. of the net premium.

b.—**The Company must have in hand, from year to year, the accumulations of *reserve* provided by law, safely invested in securities earning a rate of interest not less than that assumed in making the premium. If a higher rate be realized, a dividend can be paid.**

To illustrate.—Suppose that the insured is 40 years old at the beginning of the *first* policy year; that the policy is for $1,000, Ordinary Life, and that the premium is based on the Actuaries' Table of Mortality, and 4 per cent. interest. The net annual premium is $23.68, and it is also the required legal reserve, at this, the *beginning* of the *first* year; but it gradually diminishes until, at the *end* of the year, it is only $14.41. The difference between the legal reserve at the beginning, and at the end of the year,—$9.27—, is supposed to have been used in payment of death claims. At the beginning of the *second* policy year, after the premium for the year has been paid, the net annual premium, —always $23.68—, is added to the legal reserve at the end of the *first* policy year, $14.41, making $38.09, which is the required legal reserve at the *beginning* of the *second* policy year. This, also, as during the first year, gradually diminishes, until, at the *end* of the year, it is $29.31, which is the legal reserve at the *end* of the *second* policy year ; and so on. It will be noticed that the legal reserve at the *end* of any policy year is always larger than it was, at the *end* of the last preceding year; and, also, that the reserve, at the *end* of *any* policy year added to the uniform net annual premium, *at the age when the policy was issued*, gives the legal reserve at the *beginning* of the *next* policy year. At the end of the *first* policy year, as has been shown, the legal reserve is $14.41; at the end of the *second* policy year it is $29.31, gradually increasing from year to year, until at the age of 100—in case of a life policy, based on the Actuaries' Table of Mortality—it is equal to the face value of the policy.

c—Good Management.

Under the Level Premium System the larger and more prominent companies, both in this and in foreign countries, are doing business. For convenient illustration, let it be assumed that a policy of $10,000, Ordinary Life plan, annual premium $264.90, has been issued on a life at age 35. This premium, the first year, is composed of the following elements, premising that it is based on the Actuaries' Table of Mortality, and four per cent. interest:

1. **The Reserve Element**	$110.39
2. **The Mortality Element**	88.27
3. **The Expense Element**	66.24
Gross Premium	$264.90

The Reserve Element.—Upon payment of the first annual premium of a Level Premium Policy, insurance law and mathematics require that a part of it shall be invested by the company and compounded, annually, at a certain rate of interest—usually four, or four and one-half per cent.—until the policy becomes a claim by death or maturity. Then it is applied in part payment of the claim. A part of every succeeding year's premium is also required to be thus invested. The accumulation of these investments is technically called "*the reserve.*" This *reserve* becomes larger and larger the longer the policy remains in force, until it equals in amount the face value of the policy, at age 96 or 100, if a life policy; or, at the end of the endowment term, if an endowment policy. A Level Premium Company, not having in hand the *reserve* prescribed by the state from which it received its charter is not solvent, and, when it would enter other states for business it must comply with the reserve laws of those states.

The *reserve* should not be confounded with surplus. It is not surplus. It may produce surplus, as will be seen further on. The *reserve* can be used for no purpose whatever while the original policy is in force, except for accumulation. If a note has been given in part or full payment of a premium, it is a part of the *reserve*. If a policy were to be sold, to the company or another party, the *reserve*, at date of sale, indicates its cash value. If the original policy were to be exchanged for a similar, smaller one, a paid-up, one upon which further payment of premiums would not be required, the *reserve* determines the amount of such paid-up. It would be what the *reserve* would pay for at your then age, according to the rules of the company.

By referring to Table No. 19, it will be seen that the *reserve* on the assumed policy, at the end of the first year, is $114.81, and at the end of the 65th year, $10,000. If the policy were for a different amount; or, for the same amount at a different age; or, in general, if the age, kind or amount of policy, either or all of these were different in any respect, then the *reserve* would be different. It is assumed that the *reserve* on this policy will earn four per cent. compound interest; that, during the first policy year, $88.27 will be used in payment of death claims, and $66.24 for expenses, and *similar* amounts every year thereafter. If these assumptions be realized, no more and no less, and no dividends or profits accrue from other sources to reduce the premiums, then the insured will pay the Level Premium of $264.90, every year, during life. Thus paying, for the whole term of life, he will be insured, *not for* $10,000, but as follows: At the end of the first policy year, $9,885.19; at the end of the tenth year, $8,665.88; at the end of the fifteenth year, $7,857.00; at the end of the thirtieth year, $5,153.62, and so on, for a decreasing amount, year after year, until, at the end of the sixty-fifth year, at the age of 100, he will have *no insurance*, as the *reserve* will then just exactly equal the face value of the policy. It is a very remarkable characteristic, therefore, of "The Level Premium System", that a policy-holder is never insured for the full face value of his policy and additions! His insurance is only for a sum equal in amount to the *difference* of these and their *reserves*.

Twenty-seven Level Premium Life Companies reported to the Massachusetts Insurance Department, Dec. 31, 1884. According to their sworn statements, in these reports, their net total assets amounted to $469,898,831. Their reserves amounted to $418, 285,178! The reserves, therefore, constituted nearly *ninety per cent.* of their assets!!

Amzi Dodd, president of THE MUTUAL BENEFIT LIFE INSURANCE COMPANY, of Newark, New Jersey, one of the largest and oldest Level Premium Companies in the United States, in his Annual Report, Jany. 1, 1883, says, with reference to the reserve accumulations of companies, as follows:

"In regard to this fund a few explanatory words may be useful. Each policy is credited on the company's books with a separate reserve, according to its age, kind and amount. It arises from the simple circumstance that the risk of death (and, therefore, the cost of insurance) increases with each year of life, while the premium which is paid on the policy differs in amount from the cost of insurance. Out of 1,000 persons, living at the age of 35, our American Experience Table of Mortality shows that *nine* will die in the ensuing year. Out of 1,000 living at the age of 45, *eleven* will die; out of 1,000, at 55, *eighteen;* out of 1,000, at 65, *forty;* out of 1000, at 70, *sixty-two;* out of 1,000, at 80, *one hundred and forty-five;* at 85, *two hundred and thirty-six;* at 90, *four hundred and fifty four;* at 92, *six hundred and thirty-five;* at 94, eight hundred and fifty seven; at 95, *one thousand*—that is to say, by the table, life is not extended beyond 96.

"From the above figures it appears how the cost of insurance increases yearly. This increasing cost would be the *natural* premium. For the sake of convenience, the sum ordinarily agreed to be paid in each year, is different, and is called the *artificial* premium. During many years after the policy is issued, the artificial premium is greater than the natural, and in after years it is less. In case of a policy issued at the age of 35, the artificial premium is greater than the cost of insurance till the insured reaches the age of 56. After that age it grows rapidly less.

"Out of this state of things arises the whole matter of reserves, so fundamental and so much discussed in Life Insurance. Simple as it is when stated, it is remarkable how often it is imperfectly, or obscurely conceived. If the policy contract, instead of calling for the same premium each year, should call for the gradually increasing natural premium, there would be no need of reserves or accumulated funds. The Company and its members would do business on the rule of "pay as you go." The policy-holder would get yearly the equivalent of his money paid. But under the system almost universally in use he pays largely in advance, and the Company holds the money to offset against insurance in after years, when the insured does not wish to be called on for larger payments. The reserve fund thus arising is sometimes called the *wealth* of Life Insurance Companies. It is obviously not such; but a *debt* from the corporation to its members: a great trust fund confided to the managers.

"The foregoing will serve to indicate several points to which only a brief reference need now be made: *Firstly*—The paramount importance of keeping an ample reserve fund securely invested. It is vital to the fulfillment of the company's contracts with its members. *Secondly*—Why it is that a company should make an equitable allowance for the value of a policy when the holder can no longer pay premiums, or from any cause discontinues them. The company has in its hands a reserve for the policy, the most of which it can return either in cash or in the form of insurance, without injury to its other members or policy-holders. The reserve is held for the future needs of the policy, and when such needs cease to exist a fair return can be made."

The Mortality Element.—The name sufficiently indicates its use. In the premiums under analysis, it is $88.27 the first year. *Theoretically,* this is the maximum amount chargeable to the insured, in any one year, as his contribution to the death fund, but, practically, this element of the premium and the expense element are merged together. Sometimes the death rate is in excess of that assumed, and the expense element is drawn upon to make up the deficiency, and vice versa.

Column (3), Table No. 19, shows the amount of insurance, from year to year, that the company has *at risk* on the assumed policy. It is at all times the excess of the face value of the policy over the *reserve* in hand. When the insured dies, this excess or amount at risk is paid from the Mortality Elements of the premiums of surviving policy-holders. To illustrate, suppose death occurs at the end of the tenth policy year. The reserve is $1,334.12. This lacks $8,665.88 of paying the $10,000. This deficit, therefore, must be paid from the Mortality Elements of the surviving policy-holders' premiums, as stated before.

According to the Actuaries' Table of Mortality the cost of insurance, at age 35, is only $9.29 for each $1,000. At age 50, it is $15.94 ; at age 60, it is $30.34 ; at age 70, it is $64.93 ; at age 80, it is $140.41 ; at age 90, it is $323.73 ; and at age 99, it is $1,000 for $1,000 of insurance ! From this it is seen that, if no accumulations were held in reserve, under The Level Premium System, the death rate would eventually be so large that the *entire premium*,—the three elements combined—, would be insufficient for the payment of death losses, alone, saying nothing of expenses. But the constantly increasing *reserve* is continually diminishing the amount of insurance at risk, so that the *decrease of risk* neutralizes *the increase of mortality*.

The Expense Element.—"The net premium," says Gustavus W. Smith, "is the amount that will, on the designated data —namely, rate of interest and table of mortality—exactly effect the insurance."

"Loading"—The Expense Element,—, says Elizur Wright, "is the addition which is made to the 'net premium,' to provide for commissions and other working expenses, and for occasional excesses of mortuary loss."

In the premium under analysis the expense element is $66.24. This is the assumed, maximum, annual charge against the insured for expenses. By adding the *reserve* and Mortality Elements of any premium, we obtain what is called the "*net premium*," which, in the example selected, is $198.66 ; then, by adding The Expense Element, we obtain the Gross Premium of $264.90. Net premiums,—age, kind and amount of insurance being the same.—are the same in all Level Premium Companies that base their rates on the same Mortality Table and rate of interest ; but the Gross Premiums are most always different, because of the difference of the Expense Elements. Of two Level Premium Companies, one has been charging a Gross Premium of $313.00, and the other only $266.10, for $10,000 of insurance, life plan, age 40, the *first year*. Their net premiums are the same, but the Expense Element of the former is $89.46, while that of the latter is only $42.56. The dividends at the end of the first year, if used in part payment of premiums, would possibly reduce the second year's payment in each to about the same amount, and, after a few years, the higher price company, at first, might prove to be less expensive in the long run.

The *Reserve* and *Mortality* Elements are determined by careful mathematical calculations, while the *Expense* Element, or "loading," as it is technically called, is entirely arbitrary.

SOURCES OF DIVIDENDS.

In the Level Premium System.

1.—Dividends arising from having received a higher rate of interest on the reserves than that assumed.—It has been stated that the reserves of every company must be invested and compounded annually, at a certain rate of interest, *fixed by law*. In the example selected, we assume the rate to be four per cent. If only four per cent. be realized, there can be no dividends from this source. But, suppose, for illustration, that the reserve earns six per cent. compound interest, or *two per cent.* more than that assumed. By referring to col. (5), table No. 19. it will be seen that this gives a dividend, end of 1st year, of $2.30; end of 5th year, $12.26; end of 10th year, $26.68; end of 15th year, $42.86; end of 20th year, $60.26; end of 25th year, $78.50; end of 30th year, $96.92; end of 35th year, $114.64; end of 40th year, $131.00; end of 45th year, $145.62; and at the end of the 65th year, $200!! Columns (4), (6), and (7) show what the dividends would be if the reserves were to earn five, seven or eight per cent. compound interest. One of our most prominent Life companies realized an annual average of *eight and one-quarter* per cent. compound interest on its reserves, from 1872 to 1883; but in 1883 it was only a trifle more than *six and three-fourths* per cent., which, although much reduced, was very high in comparison with that of some other older companies. Another company that received *seven and one-fifth* per cent. interest on its reserves in 1873, realized less than *five per cent.* in 1883! This reduction of interest has but little effect on the dividends of policies that have been in force only a few years, when the reserves are comparatively small; but, on *old* policies with large reserves there has been a marked reduction of dividends. The companies should not be censured as it could not be avoided. Agents and solicitors of comparatively young companies have sometimes seized upon the fact of this large reduction of dividends on old policies in the older companies, and made it the basis of severe and unjust criticism by comparing *recent*, with former dividends on the same policies before interest had dropped.

The reserves of the Level premium companies doing business in Massachusetts last year, as shown by official reports, Dec. 31, 1884, amounted to $418,285,178. If only five per cent. interest be realized on these reserves during the present year, the dividends resulting therefrom will amount to over *four millions of dollars;* if six per cent. be realized, the dividends will be more than *eight and one-third millions of dollars;* and, if the reserves earn seven per cent, the dividends will be over *twelve and one-half millions of dollars!!*

2.—Dividends arising from having experienced a less mortality than assumed.—The mortality element of a premium is the *assumed* maximum annual contribution of the insured for the payment of death losses. In the premium under analysis it is $88.27 If it be not all used for that purpose, the *unused* portion will be returned to the policy-holder at the end of the policy year, improved by interest, as an element of his dividend for that year. Dividends from this source, in our best conducted companies, where extreme care has been exercised in the selection of sound lives, have been quite large, amounting some years to twenty or even thirty per cent. of the assumed mortality. So long as the actual mortality, among the members of a company, is less than the mortality indicated by the table upon which its premiums are based, there will be a constant annual surplus for dividends from this source. If a company be *National* in character, with its business sufficiently large for a safe average, and quite evenly distributed over the whole country, there need be no apprehensions of serious trouble from epidemics, wars, earthquakes, etc., etc. The great law of mortality operates with as much precision as the laws of light, heat, electricity and gravitation.

Several years ago a special agent of a New York company was sent on business to one of its General Agencies in New England. While there, the General Agent remarked that he had *one* policy-holder who was always *grumbling*. His policy was for only $1,000, but his fruitful imagination was constantly conjuring up something that might possibly happen to the company and his policy thereby become worthless. Sometimes it was one thing, and at other times, another. Just at that time he was fearful that some fatal epidemic might sweep over the country, and, if not all, a very large percentage of the policy-holders of his company would suddenly die and the company thus become hopelessly insolvent. The general agent expressed a desire that the special should have an interview with this troublesome policy-holder. An interview, therefore, was arranged, and in a few hours the special agent and the vexatious policy-holder confronted each other in the private office of the general agent. After customary preliminaries, the policy-holder said, "What are the assets of your company?" "25 millions of dollars" was the reply. "What amount of insurance has the company in force?" was the next question. "165 millions of dollars" promptly responded the special. "Now, sir," rejoined the policy-holder, "suppose all your policy-holders were to die before to-morrow morning, how could the company pay 165 millions of dollars, when, according to your statement, just made, it has only 25 millions of dollars to pay it with?" The special agent replied, "I will answer your questions by asking another. I will suppose you have three sons whose ages are five, ten and fifteen years, respectively, and that you have decided to make a permanent investment by which each of these sons shall receive, at age 21, $1,000 in cash. Your youngest son will be 21 in 16 years; the next older, in 11 years, and the oldest son in six years. Assuming that money will earn four per cent. compound interest, you find that $533.90 will amount to $1,000 in sixteen years; $649.60 will amount to $1,000 in eleven years, and $790.30 will amount to 1,000 in six years. You make your investments, accordingly, and you have the best of reasons for believing that each of these sons will receive the $1,000 thus provided for at the age of 21. You know that sixteen years must elapse before the youngest son will be 21; the next older will not be 21 until the end of eleven years, and it will be six years before the oldest son will be 21. But what if all three of these sons *were to become* 21 *years old to-morrow?* Your investments would not pay the $3,000, would they? If all our policy-holders were to die before to-morrow morning, it would be a phenomenon *as exceptional* as if your three sons were to become 21 years old to-morrow. In that event our 25 millions of dollars would not pay the 165 millions of dollars any more than your investments would pay the $3,000. One event is as likely to occur as the other."

3.—Dividends arising from the expenses having been less than those assumed.—If the expense element of a premium, which, in the example for illustration is $66.24, is not all needed for the purposes indicated, the balance is paid back to the insured, with interest earned, at the end of every policy year, as an element of his dividend. In looking over the records of the companies for a series of years, it will be seen that their expenses have *averaged* from about $5.00 to $15.00 per annum for each $1,000 of insurance in force. The lower averages, with rare exceptions, are those of the older companies having large amounts of old business on their books, in which the agents have no renewal interest. This showing, however, is to some extent delusive. There are three well defined periods in the expenses of every company's business,—(1), the expense of procuring new business; (2), the expense of taking care of it after the first year and until the agents' renewal commissions terminate; (3), the expense *after* the renewal commission period. If our insurance laws would require every company to report its expenses during each of these periods, *separately*, one would probably be better qualified to judge more accurately of the comparative merits of the companies, in this respect.

4. Dividends from Lapses and Forfeitures. A policy is said "*to lapse*" if the premium is not paid when due.

If the Company accept the policy afterwards, upon certificate of health, or otherwise, the policy is then known as a "*Restored Policy.*" A policy is "*forfeited*" when one or more of its conditions of non-forfeiture are violated. These conditions vary in the different companies, and in the different kinds of policies issued by the **same** company. The margins made, therefore, on lapses and forfeitures, depend not only upon the company that issued the policy, but also upon the kind of policy issued. A policy, in some companies, may *lapse* and not be *forfeited;* or, it may be *forfeited* without *lapsing*. In other companies a *lapsed* policy is also a *forfeited* policy, until restored, or a paid-up be issued in exchange. Every kind of a policy in every company *will lapse*, if the premium be not paid when due; but the consequences to the policy-holder, of the lapse, would be widely different in different companies and in different forms of polices. If a **Tontine Policy**, it may be *restored* to its original condition by paying the unpaid premium within 60 or 90 days, *with accrued interest*. If not restored within the specified time, it becomes a *forfeited* policy, and all the reserve and dividend accumulations will be finally paid to the persistent members of his Tontine class; if a **Semi-Tontine Policy**, having been in force three or more years, it may be restored as in the case of a *full* Tontine, or the insured may exchange his semi-Tontine, within a specified time, for a paid-up, forfeiting only his accumulated dividends. If the *lapsed* policy is a Life or Endowment Policy, having been in force two or three years, the consequences depend entirely upon the policy contract of the company that issued it. If in a a certain class of companies, it may be restored—upon giving certificate of health—, or exchanged for a smaller paid-up, *if attended to* within a limited time; or, it may be surrendered for cash. If in another class of companies the policy would be *continued*, so long as the dividend accumulations, if any, would carry it, at the orignal premium rate; if in another class, the lapsed policy, itself, would, immediately, without notice or application, become a paid up for a *smaller* amount payable when the original policy would have been ; if in still another class, it wculd be continued, for the full amount, so long as the *reserve* would carry it, at single payment *term* rate, without any action on the part of the insured, and so on.

The conditions and consequences of *forfeiture* are as multiform as are those of lapses, but more disastrous to the insured, depending upon the companies selected. Prompt payment of premium is not always a safeguard against forfeiture. Incorrect statements—intentional or otherwise, material or immaterial—made in answer to questions asked in the application for insurance, sometimes forfeit the policy, and, as this point is not generally raised by the company until after death occurs, and the policy is presented as a death claim, vexatious and serious litigations have been the results. Suicide by the insured, whether sane or insane, voluntary or involuntary; excessive use of intoxicants; going beyond the prescribed limits of travel; engaging in certain occupations, etc., etc., have forfeited a great many policies, and added large amounts to the surpluses of the companies. Some companies—*not all*—seem to have loaded their policy contracts with such a multiplicity of things that the insured *must*, or must *not*, do, that, although he pays his premiums, promptly, he is nevertheless, very liable to forfeit his policy. No agent has authority to waive a lapse or forfeiture, so that when it occurs the entire reserve and dividend accumulations are in imminent peril.

The lapses, *alone*, of fifteen companies, from 1872 to 1881, inclusive, were from fifteen to eighty-seven per cent. of their entire new business written during that time, the *average* being over forty-three per cent. Their new business, in round numbers, was 1,730 millions of dollars. The amount of *lapsed* insurance, therefore, was 744 millions of dollars! We have compared the lapses with the new business, but it must not be inferred from this that the lapses were *from* the new business. A very small percentage of them was from the new business. If the policies averaged $2,000, each, 372,000 *policies* lapsed, during the decade named, *in only fifteen companies*!! Suppose these policies to have all been ordinary Life policies, issued at an average age of 30, and to have been in force an average of *four years* before lapsing, the reserve at time of lapse would have been, according to the Actuaries' Table of Mortality and four per cent. interest, $29,060,640! Some of these policies were doubtless restored; for others paid-ups were probably issued, and others were surrendered for very meagre cash values ; but the enormous sum of *more than twenty-nine millions of dollars* was in peril! As these figures *do not include* the lapses of the Massachusetts' and *other* non-forfeitable companies, something had to be done, and that too in a limited time, by the policy-holders, to save any portion of these reserves.

5. Dividends from Cash Surrender Values.—The expression, "*Cash surrender value*," means, practically, this: If a company were to offer $500 *in cash*, for a policy, that would be the cash surrender value of that policy in that company. In *another* company it might be $800, or even $1,000! The cash surrender values of policies issued by Massachusetts Companies since January 1, 1881, are regulated by law; but, with this single exception, the cash surrender value of a policy is whatever the company that issued it offers for it. It is sometimes stipulated in the policy, but is generally left an open question until applied for by the policy-holder. The basis of cash surrender values, in the Massachusetts companies, is the "*Insurance Values*"; but, in all other American Companies, it is the *reserve values*.

A policy-holder in a certain company asked for the cash surrender value of his policy. His reserve and surplus amounted to $155.99. The company offered him $26.38!

Another gentleman who was insured in another company, asked for the cash surrender value of his policy, and was offered $1,876.52. His reserve and surplus amounted to $5,400!

The amount paid by the 29 companies doing business in the State of New York, for the year ending Dec. 31, 1884, for lapsed and surrendered policies, was $9,503,530. Assuming that they paid an average of one-quarter of the reserves, the *whole* reserves amounted to $38,014,120! If the policies surrendered were all ordinary Life Policies, issued at an average age of 35, and had been in force an average of four years, their cash surrender value, according to the Massachusetts standard, was $23,948,896—sixty-three per cent. of the reserves. The difference between what they paid and what they might have paid—according to the Massachusetts law—without impairing their vitality, was $14,445,366. This last amount, therefore, was the net profits in cash surrender values, *for one year*, of only 29 of the 50 regular Life Companies doing business in America!

The amount of cash paid for surrendered policies from 1875 to 1884, inclusive,—10 years—, by the companies reporting to the Massachusetts Insurance Department, was $92,099,599. Assuming that an average of one-third of the reserves was paid, the entire amount of reserves was $276,298,797! Assuming, further, that the policies were all Ordinary Life Policies, and issued at an average age of 35, and had been in force an average of four years, their cash surrender value, by the Massachusetts' Standard, was $174,068,242! These companies could have paid this last amount without impairing their vitality. Subtract what was paid, ($92,099,599.), from what might have safely been paid, ($174,068,242.), and we have $81,968,613, as the net profits, in one decade, *in cash surrender values*, by considerably less than the whole number of Life Companies doing business in this country at that time. Had these policies been on the 10-year Life Plan, instead of on the Ordinary Life, as assumed, the net profits would have been more than 162 *millions of dollars!!*

6. Dividends arising from changes. It sometimes occurs that a policy-holder, after having been insured a few years, desires to change his policy for one of another kind. It may be an Ordinary Life Policy and he prefers an Endowment or one upon which all the premiums may be paid in ten, fifteen, or twenty years; or, he may wish to reduce the amount of his present policy. In most companies any such change is attended with more or less loss to the insured, and a corresponding profit to the company.

CHAPTER VII.

CLASSIFICATION OF THE LEVEL PREMIUM COMPANIES.

CLASS A.—THE MASSACHUSETTS NON-FORFEITURE LAW OF 1880. —LETTERS AND ANSWERS.—EXAMPLES ILLUSTRATING THE LAW.

The companies doing business under **The Level Premium System** may be properly grouped into the following classes :

CLASS A.

This class includes all the Life Companies chartered by and doing business under the authority and supervision of the commonwealth of Massachusetts. They are distinguished from all other companies doing business in America because of "**An Act limiting the Forfeiture of Policies in Life Insurance Companies,**" approved April 23, 1880, taking effect on the fifth day of March, 1881, in compliance with which all their policy contracts are drawn. As this law involves a new principle in *Paid-up policies and cash surrender values*, it is given in full as follows:

Public Statutes, Chap. 119, Sections 161-166. Sect. 161. No Policy of Life or Endowment Assurance issued after the thirty-first day of December, in the year eighteen hundred and eighty by a domestic company shall become forfeited or void for non-payment of premium after two full annual premiums have been paid thereon, in cash or note, or both ; but upon default in a subsequent premium payment such policy shall become subject to the conditions expressed in the four following sections, any stipulation or condition of forfeiture contained in the policy or elsewhere to the contrary notwithstanding ; and any waiver by the assured of the provisions of this and the four following sections shall be void ; but the provisions of this section and of said sections shall not prevent the performance of any stipulation or condition in any policy issued before the fifth day of March, in the year eighteen hundred and eighty-one.

Sect. 162. In case of default in the payment of a third or of any subsequent annual premium on any such policy, then, without further negotiation or stipulation, such policy shall be binding upon the company for an amount of paid-up insurance which the then net value of the policy, less any indebtedness of the assured to the company and a surrender charge as provided in the following section, will purchase as a net single premium for Life or Endowment Assurance maturing or terminating at the same time and in the same manner as provided in the original policy contract; that is to say, no condition of the policy contract other than for the payment of premiums shall be affected by the provisions of sections one hundred and sixty one to one hundred and sixty-five inclusive; nor shall any change be made in the terms of said contract on account of default in premium payment, after two full annual premiums have been paid as provided in the preceding section, except as herein set forth. The net value of the policy, including all dividend additions declared thereon at the date of said default, shall be ascertained according to the "combined experience," or "Actuaries'" rate of Mortality, with interest at four per cent. per annum; and from such value shall be deducted any indebtedness of the insured to the company or notes held by the company against the insured, and a surrender charge to be determined as provided in the following section.

Sect. 163. Said surrender charge shall be determined as follows: Assuming the rate of mortality and interest mentioned in the preceding section, the present value of all the normal, future, yearly costs of insurance which by its terms said policy is exposed to pay in case of its continuance shall be calculated, and eight per cent. of this sum shall be the legal surrender charge.

Sect. 164. When after the payment of two annual premiums as provided in section one hundred and sixty-one the insurable interest in the life of the insured has terminated, the net value of the policy, subject to the conditions named in section one hundred and sixty-two, shall be a surrender value payable in cash; and upon the termination of such insurable interest the holder of a policy upon which by its terms no further premiums are payable may upon any anniversary thereof claim and recover in cash from the company a surrender value computed as aforesaid; but upon policies of prudential or industrial insurance, on which the premiums are five cents per week and upwards, but not exceeding fifty cents, the surrender value shall in all cases be payable in cash.

Sect. 165. The insurable interest named in the preceding section shall be construed to have terminated when the insured has no minor or dependent child; and his wife, if he has one, and any living beneficiary or beneficiaries named in the policy, shall join in the application for surrender thereof.

Sect. 166 The provisions of the seven preceding sections shall not apply to foreign life insurance companies.

As there have been many contradictory statements made with reference to a policy-holder's *legal* claim, under this law, for cash surrender values, a communication was addressed to the Hon. Elizur Wright with reference to it. The communication and his answer are as follows:

"Chicago, Ill., Aug. 24, 1885.

Hon. Elizur Wright,
Boston, Mass.

Dear Sir.—Referring to the Non-Forfeiting Law of Massachusetts, 1880, Public Statutes, Chap. 119 Sects. 161–166, inclusive, of which you are the recognized author, will you please state under what form of policy, if any; or, under what conditions a policy-holder can *not* claim the cash surrender value of a policy issued under this law, after two or more full annual premiums shall have been paid, *in cash*, and no conditions of non-forfeiture named in the policy having been violated

Very truly,

MERVIN TABOR,
State Actuary."

"BOSTON, Aug, 26, 1885.

MERVIN TABOR, ESQ.,
Chicago, Ill.

Dear Sir.--I was not the author of that particular feature of the Massachusetts law about which you inquire. Undoubtedly, whoever was the author, he meant to prevent the payment of any surrender value, *in cash*, whenever "a minor or dependent child" existed who could be benefited by the policy, and to limit that benefit to further insurance. As if the adult beneficiary, if one should exist, and the insured father himself, were not better protectors of that child than the state or the courts could provide! That feature, in my judgment, is a little worse than worthless, as too many laws are, and it is practically inoperative, because it can apply only to a policy whenever the holder has neglected to have the cash surrender value for each year of its term, subsequent to the second, endorsed upon it. This endorsement is always made, I believe, by the company at issue, when requested, and I don't suppose the law means to preclude the company from performing any positive promise of cash.

Yours truly,

ELIZUR WRIGHT."

After receiving Mr. Wright's letter, it was thought advisable to communicate with the companies, themselves, and accordingly the following communication was addressed to the President of each of the Massachusetts companies under date of Sept. 8th, 1885:

Dear Sir.—Inquiries are being made at this office with reference to the conditions requisite for obtaining the *cash surrender value* of a policy under Chap. 119, Sect's 161–166, Public Statutes of Mass. There seems to exist a wide difference of opinion. Some claim that whenever a policy-holder is entitled to a paid-up by operation of the law, he is also entitled to the cash surrender value, instead, if desired; while others assert that no cash surrender values can be paid when the insured has a minor or dependent child. Earnestly desiring to not misrepresent you, and, after consultation with the Auditor of Pub. Accounts, who is Ex-Officio Supt. of the Insurance Department of this State, it has been thought best to address this communication asking your interpretation of the law, and your practice, bearing on the point under discussion. If it be your practice to extend cash surrender values beyond what, in your opinion, the law demands, to certain forms of policy contract, please make the distinction *very plain* between the cash surrender values secured by the *law*, and those voluntarily offered by the company's indorsement of the same.

Very respectfully,

MERVIN TABOR,
State Actuary.

In reply, the following communications have been received:

From the New England Mutual Life Insurance Company.

"BOSTON, Sept. 12, 1885.

MERVIN TABOR, ESQ.,
185 Dearborn St., Chicago, Ill.

Dear Sir.—Your favor of the 8th inst. is received. The policy of this company in the matter of the payment of cash surrender values of policies under the non-forfeiture law of 1880 is fully shown in the inclosed circular. Under this law, after two full payments of premium the insured is entitled to paid-up insurance without further negotiation or stipulation, or at his option may in all cases that come under the provisions of the circular receive the cash value of his policy. The law of 1880 is subject to interpretation by the courts, but until the matter has been adversely decided upon, we shall abide by and pay cash values as stated in the circular. Very truly,

(Signed) BENJ. F. STEVENS,
President.

The following is a copy of the circular referred to by President Stevens:

"The attention of the public is requested to the two distinctive features of the Massachusetts Non-Forfeiture Law pertaining to Life Insurance—by which a *cash value* or paid-up insurance is assured to each Policy.

FIRST. Every Policy, upon which *two* or more Annual Premiums have been paid, has a *cash value* payable to the holder of the same, when application is made therefor, upon the anniversary of any subsequent Premiums, provided a legal discharge can be given by all parties interested. A policy made for the benefit of the insured can be legally surrendered by himself, if living, or, by his administrator or executor, in case of his death. A Policy made for the benefit of a married woman can be surrendered upon her receipt and that of her husband. If made for the benefit of children, it must be shown, to the satisfaction of the company, that the insured has no minor or dependent child.

SECOND. If the cash surrender value of a Policy is not applied for, upon the anniversary of the payment of an Annual Premium, as above mentioned, then such Policy, by lapse of payment of premiums, shall become, in the words of the law, "without further negotiation or stipulation,"—binding for an amount of Paid-up Insurance which is determined *according to the provisions of the law*. If desired, the amounts of cash surrender values and Paid-up Insurance will be put upon the Policy, and their payment guaranteed by the company. It is believed that this law—which applies only to *Massachusetts companies*, and *not to Foreign companies represented in the State*—is the nearest approach to equity yet reached by State legislation. No other State has, upon its Statute Book, a law compelling companies to give to the insured an equivalent for the amount of premiums they have paid.

(Signed) BENJ. F. STEVENS,
President.

A letter received from Walter C. Wright, Actuary of the New England Mutual Life Insurance Company, under date of Sept. 10, 1885, written during the absence of President Stevens, closed with the following sentence:

"*We endorse values on all policies, and we are well satisfied with the working of the law.*"

From the State Mutual Life Assurance Co.

"WORCESTER, Mass., Sept. 22d, 1885.

MERVIN TABOR, ESQ.,
Actuary Insurance, Dept., Illinois.
185 Dearborn St., Chicago, Ill.

Dear Sir.—Our interpretation of the Non-Forfeiture Law of this State upon the points which you inquire about is this: In most cases a policy-holder when his policies lapse has the option of deciding whether he will take the cash surrender value of the same, or let it stand for a paid-up Insurance value as determined by the law. *After* lapse, if there be minor or dependent children, the cash surrender value cannot be paid to the insured. While the Company is under no obligation to pay cash surrender values except at the anniversary of the policy after the second, it frequently does pay these values at other times when asked to do so by the policy-holder. As, in nine cases out of ten, the cash surrender value is requested while the policy is still in force, frequently, therefore, the existence of minor or dependent children does not prevent payment. The distinction you see is this: The law applies only to lapsed policies, and gives the minor or dependent children a vested interest in the cash surrender value so that it cannot be paid to the insured. As we generally deal with policies that are in force we make the payment of the cash surrender value to the insured whether there are minor children or not. I believe this covers the questions you ask.

Yours very truly,
(Signed) A. G. BULLOCK,
President."

From the Massachusetts Mutual Life Insurance Company.

"SPRINGFIELD, Mass., Sept. 11th, 1885.

MERVIN TABOR,
Actuary,
185 Dearborn St., Chicago, Ill.

Dear Sir.—Your favor of the 8th came duly to hand. I have asked our Secretary and Actuary to give me their interpretations of the sections of Chap. 119, of Mass. laws referred to by you. Their replies I enclose herewith, and I trust they may answer your purpose. These opinions were written independently; each officer being ignorant of what was written by the other, and so they may fairly be said to represent the company's understanding of the law. I would add that I fully concur with the views expressed in these letters

Yours truly,
(Signed) E. W. BOND,
President."

"SPRINGFIELD, Mass., Sept. 11th, 1885.

E. W. BOND,
President:

Dear Sir.—As requested by you, I have read Mr. Tabor's letter of the 8th inst., and to the questions therein, I reply as follows:

"Our understanding of the Massachusetts Law of 1880, is that at any of the times when a cash value would be claimed, as a right, by an insured person who had no minor or dependent child, the same cash value may be asked as a favor by an insured person who has a minor or dependent child, and the company may lawfully comply with this request, if a proper surrender can be obtained from the insured and the beneficiaries. In practice, this company is in the habit of so complying, but it does not *bind* itself to pay cash values in cases where the same are not required by the law, except that it agrees to pay the cash values on fifteen and twenty payment life policies (on the all cash plan) after they have become fully paid-up, on full surrender of each such policy on the anniversary of its date.

Very truly,

(Signed) OSCAR B. IRELAND,
Actuary."

SPRINGFIELD, MASS., Sept. 11, 1885.

E. W. BOND, ESQ.,
President:

Dear Sir.—In response to your request that I give you my interpretation of the so-called Non-Forfeiture Law of 1880, I would say that according to my understanding of sections 161 to 166, Chap. 119 of our Public Statutes, we cannot be compelled to pay the cash value fixed therein for a policy issued under the law, no matter whether the policy be written for the benefit of one's estate or for the benefit of wife, children or other persons, except when the insured has no minor or dependent children. When the insured has no minor or dependent children, he may insist upon such cash value, provided his wife or any other beneficiary mentioned in the policy, joins in the surrender to the company; and if the insured be in a condition to insist upon the cash value, he can only claim it on a second or subsequent anniversary of the policy. The law places no obstacle whatever in the way of the company's buying its policies issued under it, for cash, if they choose to do so, even when the insured is not in a condition to insist upon a cash value, provided the insured desires cash, and can give a clear and valid surrender of the policy by himself and all beneficiaries mentioned therein.

Our practice is to buy Act of '80 policies, paying their legal cash value after two years, provided we can get a valid surrender by the insured and all beneficiaries mentioned in the policy, but we at all times, reserve the right to stand upon the conditions of the law, if any circumstance should seem to make it advisable for the company to do so. The values under the law under consideration, both in cash and paid up insurance, are endorsed on the back of our policy, and the printed matter in connection with the law itself, which is printed on the policy, plainly shows the rights of the insured and the rights of the company.

To two classes of policies issued by us, viz: 15 and 20 payment life policies, on all cash plan, we attach a rider, agreeing to pay the legal cash value at the end of 15 or 20 years from the date of the policy, or on any anniversary thereafter; provided we can get a valid surrender of the policy, regardless of whether the insured has minor or dependent children or not. You of course know that under such a policy, it might occur that the insured could demand the cash value of his policy at any time *within* the 15 or 20 years; so that our voluntary agreement embodied in the rider mentioned, may be said to be a promise additional to the rights to which the law entitles him; and a waiver of a right which *might* exist at the end of these terms to decline to pay the cash value.

I enclose a copy of the rider referred to, and also the back of our policy form; these show just how this matter is set forth to our members.

Very respectfully yours,

(Signed) JOHN A. HALL,
Secretary."

The following is a true copy of the "*rider*" referred to in the letter of Secretary Hall, for a 15-annual payment life policy. The rider for a 20-annual payment Life policy is the same, except "twenty" is inserted in place of "fifteen."

"After the payment of fifteen annual premiums, wholly in cash, on this Policy No. ————, the cash surrender value of the Policy, (computed according to the method described in sections 162, 163 and 164 of chapter 119, of the Public Statutes of Massachusetts) will be paid on the fifteenth or any succeeding anniversary of the date of its issue, upon full surrender of the Policy to the company by all parties in interest."

Printed on the back of the policy to which this "*rider*" is attached, is the following:

"**Cash surrender values** can only be claimed when the insurable interest has terminated; see sections 164 and 165 of the law."

From The John Hancock Mutual Life Insurance Company.

"BOSTON, MASS., Sept. 14, 1885.

MERVIN TABOR, ESQ.,
Chicago, Ill.

Dear Sir.—Enclosed please find form of our policy contract, from which you will please observe that "the cash surrender values secured by law and those voluntarily offered by the company's indorsement of the same" are identical.

Very truly,

(Signed) S. H. RHODES,
Pres't."

On the back of the policy referred to is a table of cash, and paid up, values, over which is printed the following:

"The following table shows the amount of cash that can be realized on this policy at end of any year, provided the insurable interest as expressed in the statute (see above) has ceased; also, the amount of paid up insurance due at death (or if an endowment policy at end of endowment period) in case of non-payment of any premium."

From The Berkshire Life Insurance Company.

PITTSFIELD, MASS., Sept. 14, 1885.

MR. MERVIN TABOR,
State Actuary, &c.,
185 Dearborn St., Chicago, Ill.

Dear Sir.—In answer to your favor I would say that this office passes upon each application for surrender of policies, and determines as to what is necessary to secure for the company a good acquittance. Our counsel does not construe the act of 1880 as obliging the company to pay a cash surrender value if the insured has a minor or dependent child. The company has always endeavored to be liberal, in the construction of such laws as affect the interests of retiring members, but until the Act receives judicial construction by courts of competent jurisdiction, no claim as to its practice will be made in its behalf.

I am very respectfully,

(Signed) JAMES W. HULL,
Secretary.

Thus we have, in the foregoing correspondence, the full benefit of the construction of the present Non-forfeiture law of Massachusetts, by every Life Insurance Company affected by it. These companies have also given us, in an open, candid and frank manner, their practices under the law. They have not dodged a single point in our letter. They are evidently living up to not only the *letter*, but also the *spirit*, of the law; and, judging from this correspondence, we conclude that whenever a doubt arises as to the real meaning of the law they give their policy-holders the benefit of such doubt, if they can do so without involving themselves and consequently their membership —for they are all Mutual Companies—in legal complications that might possibly arise through the instrumentality of designing and unscrupulous parties.

The following *assumed* examples sufficiently illustrate the benefits of the law:

EXAMPLE 1.—AMOUNT OF POLICY, $10,000; AGE OF THE PERSON INSURED, 41; KIND OF POLICY, LIFE RATE ENDOWMENT REQUIRING AN ANNUAL PREMIUM OF $326.00,—*less the annual cash dividend*—, UNTIL THE INSURED SHALL ATTAIN THE AGE OF 76, AT WHICH TIME THE POLICY WILL BE PAID IN FULL AS AN ENDOWMENT; OR, AT DEATH, IF IT SOONER OCCUR.

Age at Issue, 41; *Age at Maturity*, 76; *Amount*, $10,000.
Annual Premium, $326.00.

Year.	Cash-Surr. Value.	Paid-up Insurance.	Year.	Cash-Surr. Value.	Paid-up Insurance.
2d	$183.60	$ 430	19th	$3,903.90	$6,050
3d	363.70	830	20th	4,169.90	6,320
4th	549.00	1,230	21st	4,442.30	6,570
5th	739.50	1,610	22d	4,722.00	6,820
6th	934.50	1,990	23d	5,009.40	7,060
7th	1,134.30	2,350	24th	5,305.90	7,310
8th	1,338.60	2,710	25th	5,612.70	7,550
9th	1,547.40	3,050	26th	5,931.50	7,780
10th	1,761.10	3,390	27th	6,264.20	8,020
11th	1,979.40	3,720	28th	6,614.00	8,250
12th	2,202.30	4,040	29th	6,984.30	8,490
13th	2,430.30	4,350	30th	7,379.70	8,720
14th	2,662.30	4,650	31st	7,805.80	8,960
15th	2,899.80	4,950	32d	8,270.10	9,210
16th	3,142.30	5,240	33d	8,781.80	9,460
17th	3,390.70	5,520	34th	9,353.10	9,730
18th	3,644.20	5,790	35th	10,000.00	10,000

Note 1.—In 1883 this company ceased issuing policies payable only at death, or what are commonly called Whole Life Policies; and, instead, commenced issuing policies payable at death, or after a fixed number of years in case it should not occur sooner, charging precisely the same annual premiums, and called them **Life-Rate Endowments**. The reserve law of the State requires a larger reserve accumulation on this kind of a policy, and consequently, the cash surrender and paid-up values, from year to year, are considerably larger than those of a whole life policy issued at the same age and for the same amount of insurance, at the expense however of less dividends, in the same company.

Note 2.—In the cash surrender, and the paid-up insurance values as given above, it is assumed that all the cash dividends have been used in the reduction of premiums. The paid-up values are what the law guarantees absolutely. The cash values are guaranteed by law under certain conditions fully explained elsewhere.

Example 2.—Amount of Policy, $10,000; Age of the Person Insured, 35; Kind of Policy, 20-Payment Life—*Special Contract*—Requiring the Payment of only 20 Annual Premiums of $342, each.

Age at issue, 35 ; *Amount of Policy*, $10,000 ; *Policy payable at death.*

YEAR.	Paid-up Insurance.	Cash Surr. Value.	YEAR.	Paid-up Insurance.	Cash Surr. Value.
1st	$0,000	$0,000.00	21st	$10,000	$5,383.40
2d	663	236.20	22d	10,000	5,502.80
3d	1,192	434.00	23d	10,000	5,623.30
4th	1,717	639.60	24th	10,000	5,744.70
5th	2,240	853.60	25th	10,000	5,866.70
6th	2,760	1,076.30	26th	10,000	5,989.20
7th	3,276	1,308.00	27th	10,000	6.111.80
8th	3,790	1,549.20	28th	10,000	6,234.10
9th	4,300	1,799.90	29th	10,000	6,356.30
10th	4,806	2,060.10	30th	10,000	6,477.90
11th	5,309	2,329.90	31st	10 000	6,598.60
12th	5,806	2,609.30	32d	10,000	6,718.30
13th	6,301	2,898.80	33d	10,000	6,836.70
14th	6,794	3,199.20	34th	10,000	6,953.80
15th	7,285	3,510.70	35th	10,000	7,069.40
16th	7,775	3,834.30	36th	10,000	7,183.30
17th	8,267	4,170.50	37th	10,000	7,295.50
18th	8,761	4,520.40	38th	10,000	7,405.70
19th	9,258	4,884.60	39th	10,000	7,513.90
20th	10,000	5,264.90	40th	10,000	7,620.00

It will be observed that, at the end of the 20th year the policy is a paid-up for its full face value. No more payments are required. Assuming that the insured has lived through the twenty years and paid his premiums according to contract, *in cash*, he has paid the company 20 times $342, amounting to $6,840, *less the dividends*. Had he stopped paying premiums at any time after the first two years he would have had, then and there, without any act on his part, paid-up insurance for the amount indicated in the above table opposite the year in which payment of premiums was discontinued. The law of Massachusetts gives him that, and the company endorses it on every policy! There are no exceptions ; the law is *absolute* and *unconditional* with reference to *paid-ups*, in all the Massachusetts companies, *after the first two years!* With reference to *cash* values the law is not so absolute in its requirements. It compels the payment of no cash values **except** *when the insured has no minor or dependent child.* If the insured have no minor or dependent child, and his wife, if he have one, and any living beneficiary or beneficiaries *named* in the policy shall join in the application for the cash surrender value, after the payment of two annual premiums, then the law *compels* the payment of the *cash surrender* value. But the Massachusetts *companies*, generally, are more liberal in this respect than the *law* is. In the above policy, for example, the company attaches what it terms a "*rider*," by which it guarantees to pay the cash surrender value on the *twentieth* or any succeeding anniversary of the date of its issue, upon the full surrender of the policy to the company by all parties in interest; —and, in the Secretary's letter published on a preceding page, he adds, with reference to 15 and 20 payment life policies, on all cash plan, "*regardless of whether the insured has minor or dependent children or not.*" This contract, therefore, is called a "*special contract*" because the company gives to the insured a more liberal contract with reference to cash surrender values than the law requires.

In computing the above values—Paid-up Insurance, and cash surrender—it is assumed that the cash dividends were applied, from year to year, during the premium paying period, 20 years, in payment of the premiums. If premiums were paid *in full*, leaving the dividends to accumulate in the hands of the company, at compound interest, the paid-up and cash surrender values would be very much larger than those named in the above table. The fact should not be overlooked that, on this kind of a policy the cash dividends *continue through life*, although no payment of premiums is required after the first 20 years. These will be a constant source of income during the balance of life. The amount of this annual income will depend, of course, principally, upon the rate of interest realized on the reserves.

EXAMPLE 3.—AMOUNT OF POLICY $10,000; AGE OF THE PERSON INSURED, 39; KIND OF POLICY, 36-YEAR ENDOWMEMT REQUIRING THIRTY-SIX ANNUAL PAYMENTS OF $324.60, EACH.

Age at Issue, 39; *Amount of Policy*, $10,000; *Age of Maturity*, 75.

YEAR.	Paid-up Insurance.	Cash surr. Value.	YEAR.	Paid-up Insurance	Cash Surr. Value.
1st	$000	$000.00	19th	$5,953	$3,706.80
2d	405	165.50	20th	6,211	3,963.20
3d	793	332.00	21st	6,464	4,226.30
4th	1,477	505.40	22d	6,712	4,496.50
5th	1,554	684.00	23d	6,954	4,774.20
6th	1,922	867.50	24th	7,192	5,060.40
7th	2,284	1,057.00	25th	7,426	5,355.60
8th	2,635	1,250.50	26th	7,657	5,661.50
9th	2,978	1,449.00	27th	7,885	5,979.60
10th	3,312	1,652.10	28th	8,112	6,312.00
11th	3,637	1,860.10	29th	8,338	6,660.90
12th	3,953	2,073.10	30th	8,565	7,030.10
13th	4,261	2,290.80	31st	8,793	7,423.70
14th	4,562	2,513.60	32d	9,023	7,846.90
15th	4,854	2,741.20	33d	9,258	8 306.30
16th	5,139	2,974.40	34th	9,498	8,810.40
17th	5,417	3,212.70	35th	9,745	9,370.30
18th	5,688	3,456.70	36th	10,000	10,000.00

The same general principles apply to this form of policy as to all others issued under the Massachusetts law.

EXAMPLE 4.—AMOUNT OF POLICY, $10,000; AGE OF THE INSURED, 30; KIND OF POLICY, 10-YEAR ENDOWMENT REQUIRING THE PAYMENT OF TEN ANNUAL PREMIUMS OF $1,056.60, EACH.

Age at issue, 30; *amount of policy*, 10,000; *age at maturity*, 40.

Year.	Paid up Insurance.	Cash surr. value.	Year.	Paid up Insurance.	Cash surr. value.
1st	$0,000.00	$0,000.00	6th	$6,321.20	$5,416.10
2d	2,195.30	1,621.50	7th	7,281.90	6,481.20
3d	3,270.00	2,505.20	8th	8,215.00	7,598.20
4th	4,315.60	3,430.60	9th	9,120.80	8,770.00
5th	5,332.70	4,400.02	10th	10,000.00	10,000.00

Example 4 is to illustrate the Non-Forfeiture law of Massachusetts with reference to a 10-year Endowment policy. The above paid up and cash surrender values are on the basis that the cash dividends are all used during the ten years in payment of premiums. If the dividends were left with the company to be compounded at the average rate of interest realized by the company, these values would be much larger. The law is *self-acting*. Two annual premiums paid, in cash, and no more attention paid to the policy by the insured, he would henceforth be insured for $2,195.30 until the end of the endowment period, when, if then living, he would receive this amount in cash. If death occurred prior to the expiration of the endowment period his heirs would receive the $2,195.30! The cash surrender value from year to year is what he would be entitled to upon *legal* surrender of the policy.

EXAMPLE 5.—AMOUNT OF POLICY, $10,000; AGE OF THE PERSON INSURED, 40; KIND OF POLICY, 25-YEAR ENDOWMENT REQUIRING TWENTY-FIVE ANNUAL PAYMENTS OF $404 30, EACH.

On the back of a policy of this kind, for the amount named, and issued on a life at age 40, one of the Massachusetts companies places the following certificate:

"POLICY No. ...."

"The .... company of ...., Massachusetts, hereby agrees to give, in accordance with the provisions of the law of 1880, Pub. Stats. Ch. 119, Secs. 159–166, to the within named .... on any anniversary of this policy after the end of *two* full years from the date thereof the cash surrender, or paid up values herein below stated, any indebtedness to the company on account of this policy being first deducted therefrom."

Cash.		Paid up.
$379.10	After 2 { Annual Premiums have been paid wholly in cash.	$785.10
636.60	" 3 "	1,281.60
904.20	" 4 "	1,769.20
1,181.14	" 5 "	2,246.20
1,469.40	" 6 "	2,713.90
1,767.50	" 7 "	3,170.90
2,076.00	" 8 "	3,617.10
2,395.50	" 9 "	4,052.90
2,726.80	" 10 "	4,478.80
3,070.60	" 11 "	4,895.50
3,427.00	" 12 "	5,302.10
3,798.50	" 13 "	5,701.70
4,184.70	" 14 "	6,092.40
4,587.20	" 15 "	6,475.20
5,007.50	" 16 "	6,850.80
5,447.30	" 17 "	7,219.80
5,908.60	" 18 "	7,582.60
6,393.70	" 19 "	7,939.90
6,905.50	" 20 "	8,292.50
7,446.70	" 21 "	8,640.20
8,021.60	" 22 "	8;984.30
8,634.80	" 23 "	9,325.30
9,291.90	" 24 "	9,663.60
10,000.00	" 25 "	10,000.00

Signed. ....,

Secretary.

CHAPTER VIII.

CLASS B.—NON-FORFEITURE LAW OF MAINE.—EXAMPLE.—NON-FORFEITURE LAW OF MICHIGAN.—EXAMPLES OF POLICIES ISSUED BY DIFFERENT COMPANIES IN CLASS B.

B. CLASS.

Into this class are grouped all Life Insurance Companies doing business on the Level Premium plan, that are operating under the Non-forfeiture laws of their respective States—except Massachusetts—and also those companies, their States having no Non-forfeiture laws, that have adopted, voluntarily, Non-forfeiting forms of policies by which the reserves of their policy-holders are either partially or wholly protected after two or three *annual* premiums have been paid.

The Non-forfeiture Law of Maine.—Only one company is doing business under this law, and, in several respects, the *company* is issuing more liberal forms of policies than the *law* requires. The law is as follows:

"SECTION I.—Every policy of life Insurance issued on and after the first day of April, in the year of our Lord one thousand eight hundred and seventy-seven, by any company chartered by the authority of this State, which may be forfeited for non-payment of premiums, including all notes given for premiums or interest thereon after it shall have been in force three full years, and which shall not contain provision for a surrender value at least equivalent to the value arising under the terms of this Act, shall, nevertheless, be continued in force to an extent and for a period of time to be determined as follows, to wit: The net value of the policy, when the premium becomes due and is not paid, shall be ascertained according to the combined experience or actuaries' rate of mortality, with interest at four per centum per annum. After deducting from three-fourths of such net value any indebtedness to the Company, or notes held by the Company against the insured (which notes, if given for premium, shall then be cancelled), what remains shall be considered as a net single premium of temporary insurance ; and the term for which it will insure shall be determined according to the age of the party at the time of the lapse of the policy, and the assumptions of mortality and interest aforesaid; but if the policy shall be an endowment payable at a certain time, or at death if it shall previously occur, then, if what remains as aforesaid shall exceed the net single premium of temporary insurance for the balance of the endowment term for the full amount of the policy, such excess shall be considered as a net single premium or simple endowment, payable only at the same time as the original endowment, and in case the life insured survives to such time; and the amount thus payable by the Company shall be determined according to the age of the party at the time of the lapse of the policy, and the assumptions of morality and interest aforesaid."

"SECT. 2,—If the death of the life insured occur within the term of temporary insurance covered by the value of the policy as determined in the previous section, and if no condition of the insurance other than the payment of premium has been violated by the insured, the Company shall be bound to pay the amount of the policy the same as if there had been no lapse of premium, anything in the policy to the contrary notwithstanding; *provided*, however, that notice of the claim, and proof of the death, shall be submitted to the Company, in the same manner as provided by the terms of the policy, within ninety days after the decease; and, *provided*, that the Company shall have the right to deduct from the amount insured in the policy the amount, compounded at seven per centum per annum, of all the premiums that had been forborne at the time of the death, including the whole of the year's premium in which the death occurs."

ADDITIONAL BENEFITS GIVEN BY THE COMPANY.—Instead of deducting one-fourth of said net value to obtain said net single premium, there shall be deducted the present value of the differences between the future premiums named in the policy and the future net premiums on said policy ascertained according to the rates of mortality and interest aforesaid; which present value, in no event, however, shall exceed one-fourth of said net value:

And the ordinary *life* premium, not, however, to exceed five in number at age of issue, viz., $22.70 at age 30 for each $1.000 insured, shall be deducted from the policy, if it becomes a claim, as provided in the law, instead of the larger premium named in the policy:

The proof of death may be filed in all cases within one year after such death, instead of within ninety days as provided in the law:

So that, if no condition of the policy other than the payment of premiums is violated, the results named in the statement on the third page hereof— reference being made to the policy— shall be secured to the beneficiary, *provided* all premiums paid on this policy have been fully paid in cash; but, if there remains any note or other indebtedness against this policy at the date of lapse, it will be deducted according to the provisions of the Maine Non-forfeiture law.

EXAMPLE ILLUSTRATING THE MAINE NON-FORFEITURE LAW AND THE ADDITIONAL BENEFITS GIVEN BY THE COMPANY.

POLICY, $1,000; AGE OF THE PARTY INSURED, 30; KIND OF POLICY, 10 YEAR ENDOWMENT, REQUIRING TEN ANNUAL PAYMENTS OF $104.58, EACH.

If the party insured were to pay, under the above policy, *three* annual premiums, and then quit paying, giving no more attention to the policy whatever, or to notices that might be sent him that his fourth payment would be due at a certain date, the three premiums paid would, notwithstanding, carry him *seven years longer*, making 10 years insurance; and, if living at the end of the seven years the company would pay him $188.13 in cash!

FOUR annual premiums paid would carry him *six* years longer, and give him at the end of the six years—if living—$280.34!

FIVE annual premiums paid would carry him *five* years longer, and, if living at the end of the five years, he would receive $392.63 in cash!

EIGHT annual premiums paid would carry him *two* years longer, and, if living at the end of the two years, he would receive $774.68 in cash.

NINE annual premiums paid would carry him *one* year longer, and, if then living, the company would pay him $890.12 in cash!

IF DEATH WERE TO OCCUR, the first year after lapse, the company would pay $975.71; if the second year, $949.72; if the third year, $921.91; if the fourth year year, $892.14; if the fifth year, $860.32—provided the policy had been in force at least three years before lapsing, and provided, also, that death occur *within the period of extended insurance.*

A different age, or kind of policy, or any change whatever from the above would change all the results.

The Non-Forfeiture Law of Michigan, *as amended*, in 1881:

SEC. 17. No policy of insurance on life, issued after this act shall take effect, by any company organized under the laws of this State, shall be forfeited or become void by the non-payment of any premium thereon, after the third, any further than as follows: The net value of the policy when the premium becomes due and is not paid, shall be ascertained according to the "American experience Table" rate of mortality with interest at four per centum per annum.

A surrender charge shall be first deducted from such net value on the following basis, to wit: From policies that have paid three full years' premiums, forty (40) per cent.; from policies that have paid four full years' premiums, thirty-six (36) per cent.; from policies that have paid five full years' premiums, thirty-two (32) per cent., and so on in like manner, decreasing the discount four (4) per centum for each full years' premium paid, until the discount is exhausted, when no surrender charge shall be made.

After deducting the surrender charge from the net value, the remainder shall be considered a net single premium of whole life *non-participating insurance* and the amount it will insure shall be determined according to the age of the party at the time when the unpaid premium became due and the assumptions aforesaid in regard to rate of interest and table of mortality.

In case of any indebtedness on any policy, such indebtedness shall be first deducted from the net value remaining, after deducting the discount, and the remainder, if any, shall be used as the net single premium as aforesaid.

The following table illustrates the workings of the Michigan Non-Forfeiture law as applied to an **Ordinary Life Policy** issued at age 40, for $10,000 insurance:

Annual premiums, less the dividends, paid in cash.	Secures to the insured.	A paid-up for
3	"	$641.90
4	"	906.90
5	"	1,195.30
6	"	1,506.90
7	"	1,840.90
8	"	2,194.90
9	"	2,570.60
10	"	2,961.70
11	"	3.371.80
12	"	3,799.10
13	"	4,239.00
14	"	4,510.40
15	"	4,776.50
16	"	5,032.60
17	"	5,278.50
18	"	5,517.10
19	"	5,748.70
20	"	5,970.10
25	"	6,947.70
30	"	7,728.60
35	"	8,335.20
40	"	8,825.80

No surrender of the policy is necessary to secure these paid-ups ; the original policy itself becomes a paid-up, in the event of lapse, without further negotiations.

There is only ONE COMPANY, at present, doing business under **The Non-Forfeiture law of Michigan**. In addition to the Ordinary Life Policy, this company issues all the usual forms of policies, including Limited Payment Life, Ordinary Endowment, Limited Payment Endowment, Semi-Endowment, etc., etc.

The following is an illustration of the advantages offered under the Ordinary Endowment Policy:

AMOUNT OF POLICY, $10,000 ; AGE, 40 ; KIND OF POLICY, 35-YEAR ENDOWMENT, REQUIRING THIRTY FIVE ANNUAL PAYMENTS OF $312.40 EACH.

On the back of every policy, as above described, is printed in FULL FACE type, the following:

"IT IS HEREBY AGREED, that on the surrender of this policy, duly receipted by the insured and beneficiaries, the (*here is inserted the name of the company*) will, at the end of the third or any subsequent year, **pay in cash** the surrender value specified in the following table:

At end of	3d	year,	at least...............	$ 364.90
"	4th	"	"	503.20
"	5th	"	"	649.90
"	6th	"	"	805.40
"	7th	"	"	969.50
"	8th	"	"	1,142.50
"	9th	"	"	1,324.10
"	10th	"	"	1,514.60
"	11th	"	"	1.713.50
"	12th	"	"	1,921.10
"	13th	"	"	2,137.00
"	14th	"	"	2,361.70
"	15th	"	"	2,594.70
"	16th	"	"	2,836.10
"	17th	"	"	3,085.70
"	18th	"	"	3,344.20
"	19th	"	"	3,610.60
"	20th	"	"	3,886.00
"	21st	"	"	4,170.80
"	22d	"	"	4,464.40
"	23d	"	"	4,767.90
"	24th	"	"	5,081.70
"	25th	"	"	5,407.20
"	26th	"	"	5,746.40
"	27th	"	"	6,100.60
"	28th	"	"	6,470.90
"	29th	"	"	6,861.70
"	30th	"	"	7,276.70
"	31st	"	"	7,721.80
"	32d	"	"	8,205.70
"	33d	"	"	8,736.90
"	34th	"	"	9,328.70
"	35th	"	"	10,000.00."

There is a *very remarkable* definiteness to the above contract. "**On the surrender of this policy, duly receipted by the insured and beneficiaries**"—*any time*—not within six or twelve months, but *whenever* the policy is duly surrendered and receipted, the *cash* will be paid according to the table above. The reader will also notice, in the table the expression, "*at least.*" The cash values *named* are those agreed to be paid when all dividends have been used in payment of premiums. If dividends are left to *accumulate*, the cash surrender values are *larger* than the amounts named in the table.

The following *assumed* examples will sufficiently illustrate the character of policies issued by one of the most prominent companies of class B:

EXAMPLE 1.—AMOUNT OF POLICY, $10,000; AGE OF THE INSURED, 36; KIND OF POLICY, ORDINARY LIFE, REQUIRING THE ANNUAL PAYMENT OF $268.60, DURING LIFE.

Age at issue, 36; *Amount of policy*, $10,000;
Annual premium, $268.60.

End of Pol. year.	Extended Insurance.		Age at nearest birth-day.	Paid-up Insurance.	Reserve Accumulations.
	Years.	Days.			
1st	00	00	37	$ 000	$ 112.57
2d	2	54	38	550	229.27
3d	3	96	39	830	350.08
4th	4	143	40	1,100	475.21
5th	5	187	41	1,380	604.63
6th	6	217	42	1,650	738.56
7th	7	224	43	1,920	877.00
8th	8	198	44	2,190	1,020.06
9th	9	134	45	2,460	1,167.65
10th	10	32	46	2,720	1,319.89
15th	12	75	51	3,980	2,145.53
20th	12	187	56	5.110	3,059.30
25th	11	277	61	6,080	4,028.29
30th	10	174	66	6,900	5,009.32

NOTE 1.—The above "extended insurance" and "paid-up insurance values" are conditioned on the payment of every year's premium *in cash* less the dividend. If the premium be paid in full every year, leaving the annual cash dividends to accumulate at compound interest in the hands of the company; or, if the cash dividend be used in purchasing additional insurance, in either case the above values will be very materially increased. On the other hand, if the insured do not pay the premiums wholly in cash, but partly by *note*, then these values will be *less* than those stated in the above table.

NOTE 2.—The company that issues the above form of policy says in its annual report, 1885, page 15, "The failure to pay a premium on time does not interrupt the insurance, which will be continued in full force *as long as* **the value** *of the policy will pay for.*" The "*value of the policy*" referred to is found in the column of RESERVE ACCUMULATIONS, above. At the end of the second year it is $229.27, and, if at that time the insured does not pay his *third* annual premium, the insurance for $10,000—full face of policy—*goes right along* and will continue to do so for two years and 54 days! If, within a reasonable length of time he concludes that he rather have a paid-up policy for $550 of insurance, extending over the whole of life, payable at any time to his estate or some beneficiary named, at death, whenever it may occur, such a paid-up policy will be issued upon legal surrender of the *original* policy. It will be observed that the insured receives the *extended insurance*, WITHOUT FURTHER

NEGOTIATIONS OR STIPULATIONS; but, if the corresponding paid-up is desired, instead, it must be applied for, *within three months after the lapse of policy.*

NOTE 3.—It is this company's practice to loan to its policy holders, if desired, at six per cent. per annum, one-half of their accumulated reserves. In the above example, the loan would be one-half the amount of the reserve accumulations—including the amount of notes, if any, held by it against the insured—as shown in the right hand column in the above table. For example, at the end of the eighth year, the company would loan him $510.03; at the end of the twentieth year, $1,529.65, and similarly with reference to any other year.

EXAMPLE 2.—AMOUNT OF POLICY, $10,000; AGE OF THE INSURED, 30; KIND OF POLICY, 20-YEAR ENDOWMENT REQUIRING TWENTY ANNUAL PAYMENTS OF $484.80, EACH.

Age at issue, 30; *amount of policy*, $10,000;
Endowment, maturing at 50.

End of year.	Extended Insurance.		Cash payable at end of Endowment if the insured lives.	AGE.	Paid-up Insurance.	Reserve Accumulations.
	Years.	Days.				
1st	00	000	$000	31	$000	$310.83
2d	7	147	000	32	1,080	636.05
3d	11	266	000	33	1,620	976.30
4th	16	000	30	34	2,140	1,332.26
5th	15	000	800	35	2,660	1,704.77
6th	14	000	1,580	36	3,170	2,094.72
7th	13	000	2,320	37	3,680	2,502.84
8th	12	000	3,030	38	4,180	2,930.15
9th	11	000	3,720	39	4,670	3,377.53
10th	10	000	4,280	40	5,150	3,846.11
11th	9	000	5,000	41	5,620	4,336.96
12th	8	000	5,590	42	6,090	4,851.39
13th	7	000	6,160	43	6,540	5,390.67
14th	6	000	6,710	44	6,990	5,956.25
15th	5	000	7,230	45	7,430	6,549.61
16th	4	000	7,820	46	7,950	7,172.51
17th	3	000	8,380	47	8,460	7,826.76
18th	2	000	8,940	48	8,970	8,514.48
19th	1	000	9,470	49	9,490	9,238.00
20th	0	000	10,000	50	10,000	10,000.00

NOTE 1.—The above example, being an endowment policy, differs somewhat from a life policy in the *extended* insurance. For example, at the end of the sixth year, if the premium were not paid, the value of the policy—right hand column—is $2,094.72. This value if all applied in the purchase of extended insurance

would carry the original policy far beyond the limits of the endowment, so that enough of it is applied to carry the policy to the end of the endowment period—14 years longer—and the balance is used in the purchase of what is called "*pure*" endowment payable at the end of the twenty years, *in cash.* If the party, therefore, insured as above, lets his policy lapse at the end of the sixth year, the value of the policy carries it through the term, and, if *then living to receive it,* he is paid $1,580, *in cash!* If, within three months after his policy lapses, he prefers a paid-up policy instead of the extended insurance and the $1,580 in cash, as explained, he can surrender the original policy, and the company will issue a paid-up for $3,170, payable at death or at the end of the original endowment period when he shall attain the age of 50.

The same *general* remarks made with reference to the other example are applicable to this. This Company issues all the usual forms of policies, life, limited-payment life, endowment, limited-payment endowment, etc., etc., and they are all non-forfeitable after *two* years, and incontestable except for fraud after *three* years.

Renewable Term Insurance.—Only one company issues this kind of policy. This form of policy was first introduced in 1868. It is copyrighted. FIRST POLICIES under this system are issued only to sound and healthy persons between the ages of **16** and **60** years, and for a term of **ten years** from date of issue. In case a renewal of the term is desired, the policy must be returned to the officers of the company for this purpose "*before its expiration,* when a new or renewal policy of similar form will be issued in exchange, dated at the expiration of the previous one. All renewable term policies will be written for a term of *ten years,* except that when the term expires at and after the age of *seventy,* the policy then issued will be written for the remainder of life and not be subject to any further change. The entire surplus under each policy will be accumulated in the hands of the company, and applied toward maintaining the premiums at the rate originally charged. If, at the expiration of any term, the surplus arising under each policy, together with the original rate, shall not be sufficient to continue the insurance for the full amount, it shall be optional with the insured to pay the rate required for the age then attained, after such surplus has been applied, or to reduce the amount of the insurance and continue previous payments. No medical examination of the insured will be required in case of renewal, at the end of any term, or in exchange for another form of policy for the same amount of insurance. At the end of three years a paid-up will be given, if desired, or two-thirds of the net value of the policy and accumulated surplus will be paid *in cash;* provided, in either case, the policy be surrendered to the company, and the paid-up policy or cash payment applied for within twelve months from its date of expiration. If the insured shall have attained the age of **seventy**, the **entire** accumulations will be paid in cash, or a paid-up policy issued as above provided. No policy will be issued on this plan, calling for any payment (annual, semi-annual or quarterly) of less than fifteen dollars. Female risks are taken under this form of policy—for $5 per each $1,000 of insurance, extra, under the age of 55.

IT IS CLAIMED BY THE COMPANY THAT ALL CONTRACTS, UNDER THIS FORM OF INSURANCE, FOR THE FIRST 10 YEARS, OWING TO THE DIVIDEND ACCUMULATION ON THE SAME, HAVE BEEN CONTINUED DURING THE SECOND TEN YEARS AT THE SAME RATE OF PREMIUMS, NOTWITHSTANDING INCREASE OF AGE!! The following are the

Rates to insure $1,000.

Age.	Annual premium.	Annual premium.	Age.
16 to 20	$11.09	$21.91	41
21	11.37	22.86	42
22	11.66	23.88	43
23	11.97	24.97	44
24	12.29	26.14	45
25	12.64	27.39	46
26	13.00	28.71	47
27	13.38	30.10	48
28	13.79	31.59	49
29	14.21	33.17	50
30	14.67	34.84	51
31	15.14	36.62	52
32	15.65	38.51	53
33	16.19	40.52	54
34	16.75	42.66	55
35	17.36	44.94	56
36	18.00	47.36	57
37	18.68	49.94	58
38	19.41	52.70	59
39	20.19	55.64	60
40	21.02		

NOTE.—A person insuring on the above plan, at age 40, for instance, would pay on a policy of $10,000, $210.20 each year during the first ten years. If he were to die during the time, the company would pay to the beneficiary named in the policy, $10,000 in cash. If the insured, toward the close of the first ten years, should decide to renew the contract, he must notify the company to that effect, returning to its officers the original policy *before* the expiration of the term. The company would then act upon his application, as fully stated above.

The following table shows the results of Renewable Term Policies for $1,000, issued at different ages in the year 1872, these results being calculated for 1882, or at the expiration of the tenth policy year. These figures are not to be considered as a guarantee for the future, but simply an illustration of the experience of the Company under this plan of insurance.

The premiums on policies on this plan, issued in the years 1868, 1869, 1870, 1871 and 1872, have not been increased for the second term of ten years.

Age.	Premiums paid.	Total Accumulations.	Two-Thirds Accumulations.	Paid-up Value.	Age.
20	$110.90	$35.21	$23.47	$115.00	20
25	126.40	45.86	30.57	135.00	25
30	146.70	59.85	39.90	157.00	30
35	173.60	78.86	52.57	184.00	35
40	210.20	101.36	67.57	210.00	40
45	261.40	124.29	82 86	231.00	45
50	331.70	148.20	98 80	247 00	50
55	426.60	171.90	114.60	260.00	55
60	556.40	190.47	126.98	265.00	60

CHAPTER IX.

CLASS C.—THE NEW YORK INSURANCE LAW.—THREE EXAMPLES OF MATURED ENDOWMENTS.—A REMARKABLE LIFE INSURANCE LAW.—EXAMPLE IN ILLUSTRATION.—ASSUMED EXAMPLE OF A TONTINE POLICY.—ACTUAL EXAMPLES OF MATURED TONTINE POLICIES.

C CLASS.

This class embraces all companies doing business under the Level Premium System, whose policies, in the main, are *not* Non-Forfeitable; that is to say, their policy-holders have *to do something*, WITHIN A SPECIFIED TIME, if payment of premiums be discontinued after the first two or three years, to protect their equities in the reserve and surplus accumulations on the ordinary forms of policies. It includes the great Tontine Companies, and companies generally who issue policies in which the Tontine element predominates to a greater or less extent. **Investment combined with Cheap Life Insurance** is a prominent idea with the companies in this class.

The dividends paid by the leading companies of this class, with rare exceptions, if any, on the same kind of policies—other things being equal—, are larger than those paid by leading companies in the other classes, because their policies **are forfeitable**; and, generally, any grade of companies in this class can pay larger dividends than can the same grade of companies in the other classes, for the *same reason*. Every policy-holder insured in this class of companies *must attend to the prompt payment of his premium*, ON OR BEFORE 12 O'CLOCK NOON, of the day when it becomes due, or he will be liable to a greater or less loss, according to the kind and amount of his policy, and the length of time it has been in force!

THE NEW YORK LIFE INSURANCE LAW.—On the second of May, 1879, the Legislature of the State of New York passed what has been called, in some of our insurance literature, "*The non-forfeiture law of New York.*" The following is the law, and we have italicised such clauses as serve to make it *wholly useless* as a **non-forfeiture act**.

"SECTION 1.—Whenever any policy of life insurance hereafter issued by any company organized or incorporated under the laws of this State, after being in force three full years, shall by its terms lapse or become forfeited for the non-payment of any premium, or of any note given for a premium, or loan made in cash on the policy as security, or of any interest on such note or loan, *unless the provisions of this act are specifically waived in the application, and notice of such waiver written in red ink on the margin of the face of the policy when issued*, the reserve on such policy, including dividend additions, calculated at the date of the failure to make any of the payments above described, according to the American Experience Table of Mortality, and with interest at the rate of four and a half per cent. per annum, after deducting any indebtedness of the insured on account of any annual, semi-annual or quarterly premium then due; and any loan in cash on such policy, evidence of which is acknowledged by the insured in writing, *shall, on demand made, with surrender of the policy within six months after such lapse*, be taken as a single premium of life insurance at the published rates of the company at the time the policy was issued, and shall be applied, as shall have been agreed in the application and policy, either to continue the insurance of the policy in force at its full amount, so long as such single premium will purchase temporary insurance for that amount, at the age of the insured at the time of lapse, or to purchase upon the same life, at the same age, paid-up insurance payable at the same time, and under the same conditions except as to payment of premiums, as the original policy. Provided, that if no such agreement be expressed in the application and policy, the said single premium may be applied in either of the modes above specified, at the option of the owner of the policy; *notice of such option to be contained in the demand hereinbefore required to be made to prevent the forfeiture of the policy*. Provided, also, that the net value of the insurance given for such single premium under this section, computed by the standard of this State, shall in no case be less than two-thirds of the entire reserve after deducting the indebtedness as specified; but such insurance shall not participate in the profits of the company.

"SEC 2.—If the reserve upon any endowment policy, applied according to the preceding section as a single premium of temporary insurance, be more than sufficient to continue the insurance to the end of the endowment term named in the policy, and if the insured survive the term, the excess shall be paid in cash at the end of such term, on the conditions on which the original policy was issued.

"SEC. 3.—This act shall take effect on the first day of January, 1880."

The following are examples of policies issued by one of the most prominent companies of the **C. class**. The results speak for themselves:

POLICY NO. 49,138; AMOUNT, $2,000; DATE, JULY 11, 1866; AGE, 26; KIND OF POLICY, 19-YEAR ENDOWMENT REQUIRING NINETEEN ANNUAL PAYMENTS OF $93.84, EACH.

The Company paid, July 11, 1885..................	$2,000.00
And dividend additions........................	758.90
Total paid by Company..............	2,758.90

The insured paid $93.84 per year for 19 years—of which $86.05 per annum was made to earn, by the Company, five per cent. compound interest, principle and interest amounting to exactly $2,759.68, a trifle more than the sum paid on maturity of endowment. The difference between $93.84 and $86.05, which is $7.79, was the annual cost of the insurance!

(The above premium was paid in two equal semi-annual payments of $46.92, each.

POLICY No. 99,074; AMOUNT, $3,000; DATE, JUNE 28, 1869; AGE, 25; KIND OF POLICY, 15-YEAR ENDOWMENT REQUIRING FIFTEEN ANNUAL PAYMENTS OF $198.06, EACH.

The company paid, June 28, 1884	$3,000.00
And dividend additions	1,030.32
Total paid by company	$4,030.32

The insured paid $198.06 per year for 15 years—of which $177.90 per annum was made to earn, by the company, five per cent. compound interest, principle and interest amounting to $4,030.77, a few cents more than the sum paid on maturity of endowment. The difference between $198.06 and $177.90, which is $20.16, was the annual cost of the insurance!

POLICY No. 156,482; AMOUNT, $5,000; DATE, MAY 6, 1874; AGE, 25; KIND OF POLICY, 10-YEAR ENDOWMENT REQUIRING TEN ANNUAL PAYMENTS OF $540.40, EACH.

The Company paid, May 6, 1884	$5,000.00
And dividend additions	1,066.55
Total paid by Company	$6,066.55

The insured paid $540.40 per annum for 10 years, of which $459.36 per annum was made to earn, by the Company, five per cent. compound interest, principle and interest amounting to exactly $6066.66, a trifle more than the sum paid on maturity of the endowment. The difference between $540.40 and $459.36, which is $81.04, was the annual cost of the insurance!

(The above premium was paid in two equal semi-annual payments of $270.20 each.

A very remarkable Life Insurance Law.—In 1868 a very remarkable statute was enacted by the Legislature of Iowa, intended as a complete protection of the reserves of policy holders who insure in companies organized under it, against the possible dishonesty and mal-feasance of Life Insurance officials. The law is as follows:

SEC. 1169, chap. 5, of the Laws of Iowa (code of 1873).—"As soon as practicable after the filing of said statement of any company organized or doing business under the laws of this State, in the office of the Auditor of State, he shall proceed to ascertain the net cash value of each policy in force, upon the basis of the American Experience Table of Mortality, and four and a-half per cent. interest, or the Actuaries' Combined Experience Table of Mortality, with interest at four per cent. * * * For the purpose of making such valuations, when not already made as aforesaid, the auditor may employ a competent actuary to do the same, who shall be paid by the company for which the service was rendered; but nothing herein shall prevent any company from making said valuation herein contemplated, which shall be received by the auditor upon such proof as he may determine. Upon ascertaining the net cash value of policies in force in any company organized under the laws of this State, or doing business in this State, and which has not made the deposit required in Section 1164 of this chapter"—(refers to the requirements of the States under whose laws the foreign companies were incorporated)—"the auditor shall notify said company of the amount, and within thirty days after the date of such notification the officers of such company shall deposit with the auditor the amount of such ascertained valuation of all policies within this State in the securities described in section 1179 of this chapter."

ONLY ONE COMPANY is at the present time doing business under this RESERVE DEPOSIT feature of the foregoing law. To illustrate this feature we give the following example of a policy in force:

POLICY, NO. 1857; AMOUNT, $3,000; AGE, 18; DATE OF POLICY, MARCH 14, 1874; KIND OF POLICY, ORDINARY LIFE REQUIRING THE PAYMENT OF $26.78, SEMI-ANNUALLY, DURING LIFE.

On this policy the dividends have been applied to the purchase of paid-up additions.

Dividend, 1875, end 1st year, 19.9 per cent. of annual premium	$10.68
Paid-up addition to policy	40.52
Dividend, 1876, end 2d year, 25.5 per cent. of annual premium	$13.71
Paid-up addition to policy	51.82
Dividend, 1877, end 3d year, 26.3 per cent. of annual premium	$14.12
Paid-up addition to policy	52.38
Dividend, 1878, end 4th year, 27.9 per cent. of annual premium	$14.98
Paid-up addition to policy	54.52
Dividend, 1879, end 5th year, 29.9 per cent. of annual premium	$16.06
Paid-up addition to policy	57.35
Dividend, 1880, end 6th year, 30.8 per cent. of annual premium	$16.54
Paid-up addition to policy	57.90
Dividend, 1881, end 7th year, 32.8 per cent. of annual premium	$17.60
Paid-up addition to policy	60.45
Dividend, 1882, end 8th year, 34.6 per cent. of annual premium	$18.55
Paid-up addition to policy	62.55
Dividend, 1883, end 9th year, 36 per cent. of annual premium	$19.50
Paid-up addition to policy	64.35

Dividend, 1884, end 10th year, 37.9 per cent. of annual premium....................	$20.35
Paid-up addition to policy....................	65.70
Dividend, 1885, end 11th year, 40 per cent. of annual premium....................	$21.46
Paid-up addition to policy....................	68.00

Total additions in 11 years........	$635.47
Total premiums paid in 11 years...	589.16
Excess of additions over premiums paid..	$46.31

Remark—At the end of the 11th policy year the reserve of policy and additions, according to the Actuaries' Table, and 4 % interest, the standard required by the State, amounted to $415.94! This amount, according to the preceding law, is now deposited in the office of the State Auditor, in securities prescribed by legislative enactment.

The following is an *assumed* example of a Tontine policy, with ordinary life premium rate:

AMOUNT OF POLICY, $10,000 ; ANNUAL PREMIUM, $226.30 ; AGE AT ISSUE, 30 ; KIND OF POLICY, ORDINARY LIFE ; TONTINE PERIOD, 20 YEARS.

Year.	Annual Premium.	Reserve at 4 per cent. Actuaries.	Year.	Annual Premium.	Reserve at 4 per cent. Actuaries.
1st	$ 226.30	$ 93.07	11th	$ 226.30	$1,207.70
2d	226.30	189.14	12th	226.30	1,340 62
3d	226.30	288.28	13th	226.30	1,477.91
4th	226.30	390.60	14th	226.30	1,619.25
5th	226.30	496.29	15th	226.30	1,764.19
6th	226.30	605.40	16th	226.30	1,912.50
7th	226.30	718.04	17th	226.30	2,063.61
8th	226.30	834.53	18th	226.30	2,217.47
9th	226.30	954.81	19th	226.30	2,373.88
10th	226.30	1,079.13	20th	226.30	2,532.94

Let it be assumed that a person at age 30 has under consideration the investment in such a policy as above described, and that he is quite favorably inclined to close the contract. Before doing so, however, he should be quite sure that he understands it. What does the *insured*, under the contract, promise to do? The contract lived up to on the part of the insurėd, what does the *company* promise to do? The insured promises to pay to the company $226.30, every year, during his natural life, and to live up to all the other requirements of the policy contract as to occupation, residence, habits, etc., etc., and the company agrees to pay $10,000, in cash, soon after his death, to the beneficiary or beneficiaries named in the policy. It is a simple, straight, Ordinary Life Policy contract—*with this addition*:

During the first twenty years the insured agrees to pay the $226.30 per year, *in full.* He is to receive no dividends during that period. He is not only to *receive* no dividends, but *no dividends are to be placed to his credit* during that time. If he die during the twenty years, the company agrees to pay the face value of the policy, *only.* If the insured live only one single day less than the entire twenty years from date of policy, having paid twenty full annual premiums, in cash, only the face value of the policy will be paid. He must not only *pay twenty annual premiums* but he must also *live twenty entire* years, from date of contract, and fulfill all the other conditions of the policy-contract, before he will be entitled to any dividends, *whatever.* **This twenty years** is called **The Tontine Period.**

During the **Tontine Period**, all the dividends that he *might* have received, and used, in annual reduction of premiums, had the policy *not been* a Tontine, are accumulating in what is called the *Tontine surplus fund,* and are being compounded, annually, at the average rate of interest, from year to year, realized by the company on all its invested funds. These dividend accumulations, *from his own policy,* as said before, are not placed to his *individual* credit, on the books of the company—they may be kept in memoranda—but they *are* credited to the general Tontine surplus fund of HIS CLASS.

If the policy were an Ordinary one, **not** a Tontine, and the dividends were to average, say, $75.44 per annum, and were left with the company to be compounded annually at five per cent. interest, at the end of the twenty years they would amount to $2,619.20. This would be the entire amount of his dividends, from *all* sources, under the assumptions made.

How much would the above result be increased, if the policy were a **Tontine**, and the insured were to persist in *living* and *paying,* and *complying* with *all the other conditions* of the contract, until the expiration of the 20-year Tontine period ? Of course no one can answer this question, not even the Tontine companies, themselves, except *approximately.* There are three great Tontine companies doing business in America. One of these has *estimated* the amount of surplus at the end of the Tontine period, on the kind and amount of policy assumed, at $3,256.70. This is $637.50 more than the estimated surplus, if the policy were a **Non-Tontine** ! Another estimates the **Tontine surplus** at $4,697.00 ; or, $2,077.80 more than if it were a **Non-Tontine** ! The third company makes no estimates. The *first* of the above companies, in its recent sworn testimony before the Ohio Senate Committee, stated that the Tontine surplus, at the end of the *tenth* year, on a $3,000 policy in that company, issued at age 31, was $269.79 ; that the dividends *paid* on the same kind of a **Non-Tontine** policy, same amount and age, during first ten years, compounded at six per cent., amounted to only $141.42, showing a difference in favor of the **Tontine** policy of $128.37, or 91 per cent., end of the *first ten years*. Taking the statement thus sworn to by the New York company, as the basis of estimates for the entire Tontine period, we have the following: The estimated **Non-Tontine** dividends, as stated before, amount to $2,619.20. Add 91 per cent. and the result is $5,002.67, the *estimated* **Tontine surplus** at the end of the **Tontine period**; but this result far exceeds the estimates of any Tontine company, on this kind of a policy, showing plainly that either our assumptions of the dividends are too high on a Non-Tontine policy in that company, or, that the **Tontine** Dividends would not average as large during the entire 20-year Tontine period as they did the *first ten years* of that period.

Now let it be assumed that the policy holder in our assumed example has *lived through* the 20-year Tontine period. What are the advantages over a *similar* **Non-Tontine** policy, at the end of the first twenty years ?

1. If the policy were a **Non-Tontine** in the *same* company, —a Tontine Company—he would have to apply to the company to ascertain how much *cash*, or how large a *paid-up policy*, would be given on surrender of the original policy. This application would have to be made before the twenty-first annual premium became due, or the policy would lapse. It must be attended to *promptly*. The company has, in the reserve accumulations, $2,532.94, and we have assumed that the accumulated dividends amount to $2,619.20, making, altogether, $5,152.14, in cash, to the credit of the policy in the hands of the company—it is a **Non-Tontine** policy, remember! How much of this $5,152.14 would the company *probably* pay the insured, in cash, on the *legal* surrender of the policy? *Probably* not more than one-half of it, or thereabouts, say $2,700—possibly, $3,000. If he preferred a *paid up policy* to the cash, he would receive what the $3,000 at his present age would purchase at the *company's* LOADED RATE! If the policy were a **Tontine**, how much *cash*, or *paid-up*, would the company give him upon *legal* surrender of the original policy? *One* of the three great **Tontine Companies** *guarantees* $2,173.90, *in cash*, but *estimates* it at $5,680. Its estimated equivalent **paid-up** is $12,150! *Another* **Tontine Company** *guarantees* $2,270.05 in cash, but *estimates* it at $7,120. Its *estimated* equivalent paid-up is $16,500! The *third* guarantees a *cash surrender* value of $2,532.94, but *makes no estimates* as to what it can *probably* do better than this.

It is well to remark here that the guarantee cash surrender values above, are the entire reserves as kept by the several companies, and the *estimated* cash values are these reserves augmented by the estimated surplus. It should further be remarked that when the cash surrender value is sufficient to purchase a larger paid-up policy than the original one, medical examination is required for the *additional* insurance.

(2.) The cash surrender value or equivalent paid-up, at the end of the Tontine period is not the only option on the part of the insured. There are *several* others, with reference to which the reader is referred to Chapter V of this book.

If the assumed policy were a **Semi-Tontine**, instead of a **Tontine**, any time after three years from its date, it could be surrendered for a paid-up, the insured forfeiting only the *accrued surplus.*

The following is the history of a Tontine Policy, in one of the great Tontine companies above referred to:

POLICY NO. 44,193; AMOUNT OF POLICY $10,000; KIND OF POLICY, ORDINARY LIFE, TONTINE POLICY; THE TONTINE PERIOD, 15 YEARS; ANNUAL PREMIUM, $324.70; AGE, 41; DATE OF POLICY, JUNE 8th, 1869.

During the Tontine period of fifteen years, the insured paid fifteen annual premiums, in cash, of $324.70 each, amounting to $4,870.50.

At the end of the Tontine period June 8th, 1884, the insured had the privilege of choosing any one of the following methods of settlement.

I. He could surrender the original policy to the Company, and receive, in cash, $5,530.70. After having had $10,000 insurance for 15 years for *nothing,* he could retire with $660, cash, over and above the total sum he had paid ; or,

II. He could surrender the original Policy and receive a Paid-up Policy for $10,260 upon which no further payment of premiums would ever be required ; or,

III. He could convert the *surplus,* $2,918.10 into an *annuity for life,* $243.50 per year, and apply it in annual payment of future premiums, thus *continuing* the original policy. This life annuity, of $243.50, would *alone* reduce the annual premium from $324.70 to $81.20, and the *future* annual cash dividends would very *nearly,* if not quite, pay the balance. This was the option accepted by the insured ; and, in 1885, the annuity together with the dividend of 1885, *more* than paid the annual premium, so that the company receipted for the annual premium, and *paid the insured $17.20 in cash.*

At the end of the Tontine period, the options, *in percentages,* were as follows:

1. **Cash surrender value of the Policy was 114 per cent. of the total premiums paid!**

2. Amount of Paid-up Policy was **211 per cent.** of the total premiums paid !
3. The cash surplus was **60 per cent.** of the total premiums paid !

Example of a Matured Tontine.

Policy, No. 114,285; Amount, $10,000; Date, May 7, 1875; Kind of policy, Ordinary Life; Annual premium, $350.50; **Tontine Period, 10 years.**

Results: The insured paid the premiums, in full, during the 10-YEAR TONTINE PERIOD, amounting to $3,505. By the provisions of the policy-contract, at the end of the ten years he was entitled to the benefit of the following options :

1. HE COULD SURRENDER HIS POLICY AND RECEIVE FROM THE COMPANY, IN CASH, $3,036 ; OR,

2. HE COULD SURRENDER HIS POLICY AND RECEIVE A PAID-UP FOR $6,045, NON-PARTICIPATING ; OR,

3. HE COULD SURRENDER HIS POLICY AND RECEIVE AN ANNUITY FOR LIFE OF $258.00, PER YEAR ; OR,

4. HE COULD SURRENDER HIS ACCUMULATED SURPLUS, $1,255, CONTINUING HIS POLICY, AND RECEIVE AN ANNUITY FOR LIFE OF $77.00 PER YEAR TO BE USED IN PAYMENT OF FUTURE PREMIUMS.

He selected the *second* of the above options, and reinsured on the Tontine plan, May, 1885.

Our readers must not be misled in comparing the above results with those of the 15-year Tontine preceding it. There is no basis for accurate comparison of the two.

TERMINABLE ENDOWMENTS; RESERVE ENDOWMENTS; A CERTAIN KIND OF LIFE-RATE ENDOWMENTS; FIVE-YEAR DISTRIBUTION POLICIES, ETC., ETC., ARE FORMS OF POLICY-CONTRACTS IN WHICH THE TONTINE ELEMENT PREVAILS TO A GREATER OR LESS EXTENT; BUT TO ILLUSTRATE THEM ALL, BY EXAMPLES, WOULD REQUIRE MORE SPACE THAN A WORK OF THIS CHARACTER PERMITS.

CHAPTER X.

THE NATURAL PREMIUM SYSTEM.—ITS DISTINGUISHING CHARACTERISTICS.—REQUISITES FOR SOUNDNESS AND PERMANENCY.—A LEVEL PREMIUM SEPARATED INTO ITS ELEMENTS.—A NATURAL PREMIUM SEPARATED INTO ITS ELEMENTS.—THE TWO COMPARED.—TABLE A, SHOWING RESERVE AND AMOUNT AT RISK ON A LEVEL PREMIUM POLICY OF $10,000, AGE 40, FOR 27 YEARS.—REMARKS ON THE SAME.—TABLE B, SHOWING RESERVE AND AMOUNT AT RISK ON A NATURAL PREMIUM POLICY OF $10,000, AGE 40, FOR 27 YEARS.—REMARKS ON THE SAME.—TABLE C, SHOWING THE NET AND GROSS NATURAL PREMIUMS FOR $1,000, AGES, 20 TO 99.—REMARKS ON THE SAME.—UNIFORM PERCENTUM LOADING DISCUSSED.—SHEPPARD HOMANS' PLAN ANALYZED.—TABLE D.—REMARKS.—EXAMPLES OF POLICIES UNDER THE HOMANS PLAN.

II. THE NATURAL PREMIUM SYSTEM.

DISTINGUISHING CHARACTERISTICS:

1. The premium is required to be paid *in advance.*

2. The contract between the company and the insured is called a *policy.*

3. The policy always designates a definite sum to be paid by the company to the beneficiary or beneficiaries named therein, and the insurance is for *one year*, only, or a fractional part thereof—three or six months—renewable from time to time at the option of the insured, without medical examination.

4. The premium is a "*progressive premium;*" that is, it is larger each successive year than the last preceding one. But the increase in a well managed company is liable to be impeded, somewhat, so that each of the annual payments, during the first five or ten years, in a Mutual Company, may possibly be kept down by dividends to a level, or nearly so, with that of the third, or even the *second* year.

REQUISITES FOR SOUNDNESS AND PERMANENCY.

a.—The premium must be based on safe assumptions of future mortality, interest and expenses.

b.—There must be in hand from the first to the end of every policy year, the reserve provided by law.

To illustrate,—suppose that the insured is 40 years old at the *beginning* of a policy year; that the policy is for $1,000, and that the premium is based on the Actuaries' Table of Mortality, and 4 per cent. interest. (See Table No. 16, col. 6). The net premium at 40 is $9.96, and it is also the required reserve. Bear in mind that *this* is the reserve *at the beginning* of the year; but it gradually diminishes until at the *end* of the year it is nothing! At the beginning of the second year he is 41, and the net premium,—which is also the legal reserve—, is now $10.20, which is also reduced to zero at the end of the year. At the beginning of the sixth year, at age 45, the reserve is $11.74, and nothing at the *end* of the year. At ages 50, 55, 60, 65 and 70, the reserves are, respectively, $15.33, $20.83, $29.17, $42.39, and $62.44, at the *beginning* of each of the several years indicated, but no reserve is required at the terminations of these years. Generally, at the *beginning* of any policy year, the reserve required by law in **The Natural Premium System**, is the net premium at the *then* age; but, at the *end* of any policy year, no matter how long the policy has been in force, no reserve is required. If any remains, at the end of the year, it shows that the mortality of the company during the year has been less than that indicated by the mortality table upon which its premiums are based, and it is placed to the credit of the surplus fund.

c.—The premiums should be loaded sufficiently—see "*loading,*" page 26—to provide for any possible mortality, in the future, in excess of that indicated by the mortality table upon which they are based. This surplus fund should be safely invested, and the policy contract should definitely state *how it will* be invested. To every policy holder who has been insured a certain number of years, say ten to fifteen, such a proportional part of this special mortality fund as his premiums have contributed thereto, together with interest earned thereon, should be available, annually thereafter, in payment of his premiums. Should death occur, or the policy lapse, or become forfeited, prior to the expiration of the stipulated period, it should be forfeited to the remaining members.

d.—**The necessary expenses of the company should be amply provided for by collecting from every policy-holder—Quarterly, semi-annually or annually, in advance—a uniform fixed amount for each $1,000 of insurance regardless of age. A uniform *per centum* loading of the net premium for expenses in this system of insurance is inequitable.**

e.—**Good management.**

Every life premium, under **The Level Premium System**, is composed of three elements, as follows.—(1) THE RESERVE ELEMENT; (2) THE MORTALITY ELEMENT; (3) THE EXPENSE ELEMENT. Table No. 1 gives these elements of an ORDINARY LIFE PREMIUM, for $1,000 of insurance, at every age from 10 to 99, inclusive, according to THE ACTUARIES' TABLE of Mortality and 4 per cent. interest. These elements are thoroughly discussed in previous pages, commencing at page 61.

Every life premium under **The Natural Premium System** is composed of two elements.—(1) THE MORTALITY ELEMENT—which is also the *reserve*—(2). THE EXPENSE ELEMENT. Table No. 1½ gives these elements of a natural premium, for $1,000 of insurance, at every age from 10 to 99, inclusive, according to THE ACTUARIES' TABLE of Mortality, and 4 per cent. interest.

By comparing col. (1), Table No. 1½, with col. (6), Table No. 16, they will be found to be the same. That is to say, in **The Natural Premium System**, the expressions, *legal reserve, natural net premium,* and *mortality element,* when used with reference to the same gross premium, mean *precisely the same.* To illustrate.—The gross natural premium to insure $1,000 for one year, at age 30, is $10.80, reference being had to col (3), Table No. 1½. This premium is composed of the following elements:

1.—MORTALITY ELEMENT....................	$ 8.10
2.—EXPENSE ELEMENT.........................	2.70
GROSS PREMIUM..............................	$10.80

The *mortality element* ($8.10), at the beginning of the year, is also the *legal reserve,* and the *net premium* to insure $1,000 for one year. The *mortality element,* the *net premium,* and the *legal reserve* are synonymous terms when applied to the *same gross natural premium,* at the *beginning* of the year, or fractional part thereof designed to be covered by the premium.

To further illustrate the nature and office of the *legal reserve* in **The Natural Premium System**, and in what respect it differs from the *legal reserve* in **The Level Premium System**, let it be assumed that a person, at age 40, insures, the same day, for $10,000 under each system. He has two policies—one is for $10,000 on THE LEVEL PREMIUM PLAN; the other is for $10,000 on THE NATURAL PREMIUM PLAN. He pays, in advance, to the

Level Premium company, $315.70, or thereabouts, and to the Natural Premium company, say, $132.80.

The Level Premium is made up of the following elements:

(1.).—The Reserve Element....	$138.60
(2.).—The Mortality Element...............	98.20
(3.).—The Expense Element................	78.90
Gross Level Premium...........	**$315.70**

The Natural Premium is made up of the following elements:

(1.).—The Legal Reserve or The Mortality or The Net Annual Premium } Element....	$ 99.60
(2.).—The Expense Element...	33.20
Gross Natural Premium.........	**$132.80**

The "*Expectation of life,*" at 40, is a fraction over 27 years; call it 27, even. The two following tables, A and B, show very clearly the difference between the *legal reserve* of a **Level Premium** and the *legal reserve* of a **Natural Premium**, both as to the offices they perform, and the results as shown in the amounts of insurance in force from year to year respectively.

TABLE A.

Showing the legal reserve, and the amount of Insurance at risk, at the beginning, and, also, at the end of each year, on a Ten Thousand Dollar Ordinary Life Policy issued at Age 40, under the Level Premium System.

Age.	Beginning of each Policy Year.		End of each Policy Year.	
	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance, at risk.	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance, at risk.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
40	$236.80	$9,763.20	$144.12	$9,855.88
41	380.92	9,619.08	293.13	9,706.87
42	529.93	9,470.07	447.02	9,552.98
43	683.82	9,316.18	605.47	9,394.55
44	842.25	9,157.75	767.93	9,232.07
45	1,004.73	8,995.27	934.17	9,065.83
46	1,170.97	8,829.03	1,103.57	8 896.43
47	1,340.37	8,659.63	1,276.04	8,723.96
48	1,512.84	8,487.16	1,451.38	8,548.62
49	1,688.18	8,311.82	1,629.67	8,370.33
50	1,866.47	8,133.53	1,810.60	8,189.40
51	2,047.40	7,952.60	1,993.98	8,006.02
52	2,230.78	7,769.22	2,179.61	7,820.39
53	2,416.41	7,583.59	2,367.31	7,632.69
54	2,604.11	7,395.89	2,557.01	7,442.89
55	2,793.81	7,206.19	2,748.48	7,251.52
56	2.985.28	7,014.72	2,941.44	7,058.56

TABLE A.—Continued.

Age.	Beginning of each Policy Year.		End of each Policy Year.	
	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance, at risk.	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance, at risk.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
57	3,178 24	6,821.76	3,135·93	6,864.07
58	3,372.73	6,627.27	3,331.67	6,668.33
59	3,568.47	6,431.53	3,528.39	6,471.61
60	3,765.19	6,234.81	3,725.41	6,274.59
61	3,962.21	6,037.79	3,922.48	6,077.52
62	4,159.28	5,840.72	4,119.10	5,880.90
63	4,355.90	5,644.10	4,314.98	5,685.02
64	4,551.78	5,448.22	4,509.67	5,490.33
65	4,746.47	5,253.53	4,702.89	5,297.11
66	4,939.69	5,060.31	4,894.04	5,105.96
67	5,130.84	4,869.16	5,082.95	4,917.05

NOTE 1.—The *legal reserve*, at the *beginning* of the *first* policy year, after payment of *first* annual premium, is $236.80, which is also the net annual premium—see Col. (1) above. The amount of insurance, *at risk*, at this time, see Col. (2), is the face of the policy, $10,000, less the *legal reserve*, $236.80, or $9,763.20! The *legal reserve* at the *end* of the first policy year, is $144.12, see Col. (3), and the amount of insurance, *at risk*, at this time, is the face value of the policy, $10,000, less the *legal reserve*, $144.12, or $9,855.88. The *legal reserve*, at the *beginning* of the *second* policy year, age 41, is the *legal reserve* at the end of the last preceding year, $144.12, added to the net annual premium, at 40, $236.80, or $380.92. The amount *at risk*, at the beginning of the second policy year, is the face value of the policy, $10,000, less the *legal reserve*, $380.92, or $9,619.08. The *legal reserve* at the *end* of the *second* year is $293.13, and the amount of insurance, *at risk*, is the face value of the policy, less the legal reserve, or $9,706.87; and so on.

NOTE 2.—It will be noticed that the *legal reserve* at the *beginning* of any policy year is larger than at the *end* of the *same* year; compare Col. (1) with Col. (3). This is owing to the fact that the *legal reserve* at the beginning of every year is made up of the *legal reserve* at the end of the last preceding year increased by the *net annual premium*, which latter contains the *mortality* element used in payment of current death losses, during the year.

NOTE 3.—If the insured were to die, immediately after the payment of his first annual premium, the *company* would pay $10,000. This $10,000 would be raised from two sources, (1) the *legal reserve*—$236.80—and (2) $9,763.20 from the mortality elements of all the premiums of *surviving* policy-holders. In other words, the insured, *himself*, would pay $236.80 of his own policy. If the insured were to die at the *end* of the first policy year, before paying his second annual premium, he would contribute

$144.12 toward the payment of his own policy, and the balance, $9,855.88, would come from the mortality elements of the surviving policy-holders' premiums. By looking along down Col. (1), from age 40 to 67, inclusive, it will be seen how much the insured would contribute to the payment of his own policy, if death were to occur at the beginning of any policy year; and, by examining the amounts in Col. (3), it may be seen what would be contributed, by a policy-holder, insured for $10,000, at age 40, toward the payment of his **own death claim**, should death occur at the *end* of any policy year named.

NOTE 4.—As has been said in preceding pages, over and over again, the **legal reserve** under **the Level Premium System** means **accumulation**! In the above example, the *legal reserve* at the *end* of the first policy year, is $144.12; at the *end* of the *fifth* policy year, it is $767.93; at the end of the tenth policy year, age 49, it is $1,629.67, and so on, through the entire 27 years of the policy-holders' expectancy—and as much longer as the policy is kept in force—continually *increasing*. When the insured attains the age of 67, having lived out the full average of life, and *paid his full share of death losses and expenses* **thus far**, the company still has in its possession $5,082.95, in the **legal reserve**, not one single penny of which can ever be used, *lawfully*, in payment of the current *death losses* or *expenses*. The policy-holder, under this assumed example, although the policy is $10,000, and it is spoken of as being $10,000 **of insurance**, is *never* insured for $10,000! At the end of the first year his insurance is the **amount at risk**, or $9,855.88, and this is the largest amount of insurance he can ever have under this policy contract, unless *dividends* be used in purchase of additions to the policy. At the end of 27 years he has only $4,917.05 of insurance. If he were to live and keep his policy in force 33 years longer, until the age of 100, the *legal reserve* would then just equal the face value of the policy, and he would have not *one penny of insurance!*

NOTE 5.—It should be constantly kept in mind, when looking over the above table, that the maximum amount that the insured can ever be called upon to pay, in any one year, is the **gross annual premium** named in the contract, which, in this assumed case, is $315.70. It may be *less*, but it can never be *more*. If the company's mortality be less than that indicated by THE ACTUARIES' TABLE OF MORTALITY, there will be a dividend that can be used in reduction of this premium. If the Company realizes more than 4 per cent. interest on the reserves in Col. (3), there will be a dividend from *that* source. If the expense element be not all used from year to year, a dividend will arise from that source. Chapter VI. explains, in detail, the principle sources of dividends under THE LEVEL PREMIUM SYSTEM.

It should also be borne in mind, in this connection, that every policy-holder under **The Level Premium System** pays his share of the death losses, in proportion to the amount of risk the company is carrying on him. In the example assumed the *amount of insurance at risk,* continually *diminishes* as the amount of *legal reserve increases.*

NOTE 6.—At age 40, the actual cost to the company, according to THE ACTUARIES' TABLE OF MORTALITY AND 4 PER CENT. INTEREST—see Table No. 16—to carry $10,000 of insurance, one year, is $99.60; at age 67, it is $494.90, or nearly five times as much as at 40! Were no reserve kept in hand to reduce the amount of insurance *at risk,* under THE LEVEL PREMIUM SYSTEM, the annual rate of premiums would necessarily *increase.*

TABLE B.

Showing the legal reserve, and the amount of Insurance, at risk, at the beginning, and, also, at the end of each year, on a Ten Thousand Dollar Life Policy issued at Age 40, under the Natural Premium System.

AGE.	Beginning of each Policy Year.		End of each Policy Year.	
	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance at risk.	Legal Reserve, Actuaries' 4 per cent.	Amount of Insurance at risk.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
40	$99.60	$9,900.40	Nothing.	$10,000
41	102.00	9,898.00	Nothing.	10,000
42	104.80	8,955.20	Nothing.	10,000
43	108.20	9,891.80	Nothing.	10,000
44	112.50	9,887.50	Nothing.	10,000
45	117.40	9 882.60	Nothing,	10,000
46	123.50	9,876.50	Nothing.	10,000
47	130.00	9,870.00	Nothing.	10,000
48	137.10	9,862.90	Nothing.	10,000
49	144.80	9,855.20	Nothing.	10,000
50	153.30	9,846.70	Nothing.	10,000
51	162.50	9,837.50	Nothing.	10,000
52	172.60	9,827.40	Nothing.	10,000
53	183.60	9,816.40	Nothing.	10,000
54	195.30	9,804.70	Nothing.	10,000
55	208.30	9,791.70	Nothing.	10,000
56	222.40	9,777.60	Nothing.	10,000
57	237.30	9.762.70	Nothing.	10,000
58	253.70	9,746.30	Nothing.	10,000
59	271.60	9,728.40	Nothing.	10,000
60	291.70	9,708 30	Nothing.	10,000
61	313.60	9,686.40	Nothing.	10,000
62	337.70	9,662.30	Nothing.	10,000
63	363.80	9,636.20	Nothing,	10,000
64	392.60	9,607.40	Nothing.	10,000
65	423.90	9,576.10	Nothing.	10,000
66	457.80	9,542.20	Nothing.	10,000
67	494.90	9,505.10	Nothing.	10,000

NOTE 1.—The *legal reserve,* at the *beginning* of the first policy year, as shown in Col. (1), is 99.60, and the amount of insurance

is $9,900.40. At the end of the year, the *legal reserve* is **nothing**, and the amount of insurance at risk is $10,000. The *legal reserve* at the *beginning* of each policy year, from age 40 to age 67, is from $99.60 at the *former* age to $494.90 at the latter age; but, at the end of each year, no *legal reserve* is required. The *legal reserve* at the beginning of *any* policy year is used, gradually, in payment of current death losses, until, at the end of the same year, there is nothing remaining.

The Net Premiums, above, are obtained by mathematical calculations; but the *loading* of these net premiums to obtain the corresponding **Gross Premiums** is entirely arbitrary. The loading of course is for expenses, and every company has its own peculiar notions with reference to it.

I.—COLUMN (5), TABLE NO. 16 CONTAINS ALL THE NET ANNUAL LEVEL PREMIUMS, ACCORDING TO THE ACTUARIES TABLE OF MORTALITY AND 4 PER CENT. INTEREST, TO INSURE *$1.000 for the whole of life*, AT AGES FROM 10 TO 99, INCLUSIVE. BY LOADING THESE *Net Rates*, SAY 33⅓ PER CENT., WE OBTAIN COL. (4), TABLE NO. 1, WHICH CONTAINS THE **Gross Annual Level Premiums** FOR INSURING THE SAME AMOUNTS AT THE SAME AGES, FOR THE SAME TIME.

II.—COLUMN (6), TABLE NO. 16, CONTAINS ALL THE NET ANNUAL *Natural* PREMIUMS, ACCORDING TO THE ACTUARIES' TABLE OF MORTALITY AND 4 PER CENT. INTEREST, TO INSURE *$1,000 for one year*, AT AGES FROM 10 TO 99, INCLUSIVE. BY LOADING THESE *Net Rates*, SAY 33⅓ PER CENT., WE OBTAIN COL. (3), TABLE NO. 1½, WHICH CONTAINS THE **Gross Annual Natural Premiums** FOR INSURING THE SAME AMOUNTS, AT THE SAME AGES, FOR THE SAME TIME.

III.—COLUMN (5), TABLE NO. 17, CONTAINS ALL THE NET ANNUAL *Level* PREMIUMS, ACCORDING TO THE AMERICAN EXPERIENCE TABLE OF MORTALITY AND 4 PER CENT. INTEREST, TO INSURE *$1,000 for the whole of Life*, AT AGES FROM 10 TO 95, INCLUSIVE. BY LOADING THESE *Net Rates*, SAY 33⅓ PER CENT., WE OBTAIN THE **Gross Annual Level Premiums** FOR INSURING THE SAME AMOUNTS, AT THE SAME AGES, FOR THE SAME TIME.

IV.—COLUMN (6), TABLE NO. 17, CONTAINS ALL THE NET ANNUAL *Natural* PREMIUMS, ACCORDING TO THE AMERICAN EXPERIENCE TABLE OF MORTALITY AND 4 PER CENT. INTEREST, TO INSURE *$1,000 for one year*, AT AGES FROM 10 TO 95, INCLUSIVE. BY LOADING THESE *Net Rates*, SAY 33⅓ PER CENT., WE OBTAIN THE **Gross Annual Natural Premiums** FOR INSURING THE SAME AMOUNT, AT THE SAME AGES, FOR THE SAME TIME.

TABLE C.

Showing the **Net** and **Gross** Natural Premiums, Actuaries' 4 Per Cent.; also the **Net** and **Gross** Natural Premiums, American 4 Per Cent., to Insure $1,000 for One Year.

Age.	Actuaries' 4 Per Cent.		American 4 Per Cent.	
	Net Natural Premium to insure $1,000, one year.	Gross Natural Premium to insure $1,000, one year.	Net Natural Premium to insure $1,000, one year.	Gross Natural Premium to insure $1,000, one year.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
20	$7.01	$9.35	$7.50	$10.00
21	7.09	9.45	7.55	10.07
22	7.18	9.57	7.60	10.13
23	7.27	9.69	7.65	10.20
24	7.37	9.83	7.70	10.27
25	7.47	9.96	7.75	10.33
26	7.58	10.11	7.82	10.43
27	7.70	10.27	7.88	10.51
28	7.83	10.44	7.95	10.60
29	7.96	10.61	8.02	10.69
30	8.10	10.80	8.10	10.80
31	8.25	11.00	8.18	10.91
32	8.41	11.21	8.28	11.04
33	8.58	11.44	8.38	11.17
34	8.75	11.67	8.49	11.32
35	8.93	11.91	8.60	11.47
36	9.12	12.16	8.74	11.65
37	9.31	12.41	8.88	11.84
38	9.53	12.71	9.05	12.07
39	9.74	12.99	9.22	12.29
40	9.96	13.28	9.42	12.56
41	10.20	13.60	9.62	12.83
42	10.48	13.97	9.86	13.15
43	10.82	14.43	10.11	13.48
44	11.25	15.00	10.41	13.88
45	11.74	15.65	10.73	14.31
46	12.35	16.47	11.12	14.83
47	13.00	17.33	11.54	15.39
48	13.71	18.28	12.03	16.04
49	14.48	19.31	12.60	16.80
50	15.33	20.44	13.25	17.67
51	16.25	21.67	13.98	18.64
52	17.26	23.01	14.80	19.73
53	18.36	24.48	15.71	20.95
54	19.53	26.04	16.73	22.31
55	20.83	27.77	17.86	23.81
56	22.24	29.65	19.12	25.49
57	23.73	31.64	20.52	27.36
58	25.37	33.83	22.05	29.40
59	27.16	36.21	23.77	31.69
60	29.17	38.89	25.67	34.23
61	31.36	41.81	27.77	37.03
62	33.77	45.03	30.09	40.12
63	36.38	48.51	32.64	43.52
64	39.26	52.35	35.46	47.28

TABLE C.—CONTINUED.

Age.	Actuaries' 4 Per Cent. Net Natural Premium to insure $1,000, one year.	Actuaries' 4 Per Cent. Gross Natural Premium to insure $1,000, one year.	American 4 Per Cent. Net Natural Premium to insure $1,000, one year.	American 4 Per Cent. Gross Natural Premium to insure $1,000, one year.
	Col. 1.	Col. 2.	Col 3.	Col. 4.
65	$42.39	$56.52	$38.59	$51.45
66	45.78	61.04	42.03	56.04
67	49.49	65.98	45.82	61.09
68	53.49	71.32	50.00	66.67
69	57.78	77.04	54.58	72.77
70	62.44	83.25	59.61	79.48
71	67.46	89.95	65.07	86.76
72	72.89	97.18	70.81	94.41
73	78.73	104.97	77.09	102.79
74	85.07	113.43	83.68	111.57
75	91.89	122.52	90.74	120.99
76	99.21	132.28	98.38	131.17
77	107.18	142.91	106.79	142.39
78	115.81	154.41	116.18	154.91
79	125.06	166.75	126.67	168.83
80	135.01	180.01	138.91	185.21
81	145.61	192.01	152.89	203.85
82	156.92	209.23	167.59	223.45
83	169.15	225.53	184.19	245.59
84	182.38	243.17	203.23	270.97
85	197.21	262.95	226.49	301.99
86	213.92	285.23	255.46	340.61
87	232.92	310.56	291.37	388.49
88	255.07	340.09	333.36	444.48
89	281.14	374.85	380.64	507.52
90	311.28	415.04	437.06	582.75
91	347.10	462.80	511.98	682.64
92	389.68	519.57	609.86	813.15
93	439.64	586.19	705.94	941.25
94	496.45	661.93	824.18	1,098.91
95	561.80	749.07	961.54	1,282.05
96	623.70	831.60		
97	665.68	887.57		
98	721.15	961.53		
99	961.54	1,282.05		

Note 1.—THE GROSS PREMIUMS in Table C, (2) and (4), are the NET PREMIUMS, (1) and (3), loaded 33⅓ per cent. This *uniform per centum* loading is not equitable, and Table C. is given, principally, to illustrate that it is not, in this kind of insurance. By subtracting (1) from (2); or, (3) from (4), at any age in the table, the loading is ascertained, and this is the contribution, of every policy-holder insured for $1,000 at the selected age, toward the payment of the company's expenses for *one year*. By comparing columns (3) and (4), it will be seen that for each $1,000 of insurance, the *expense charge*,—loading—, is as follows: At age *twenty*, $2.50; at age thirty, $2.70; at age *forty*, $3.14; at age *fifty*, $4.42; at age *sixty*, $8.56; at age *sixty-five*, $12.86; at age *seventy*, $19.87; at age *seventy-five*, $30.25; at age *eighty*, $46.30;

at age *eighty-five*, $75.50, and, similarly, with reference to intermediate and still older ages. In THE NATURAL PREMIUM SYSTEM, the premium is fixed for only *one year*. The *next* year, it is higher; and the next, *still* higher, and so on. It is rather difficult to understand why a policy-holder at age *seventy*, insured for $1,000, should be required to pay $19.87 as his proportion of the expenses for *one year*, while another policy-holder insured in the same company for the same amount, at age *forty*, is required to pay only $3.14 as his contribution to the expense fund for the *same* year. This inequity is the result of a *uniform per centum loading* on an *annually increasing* NET PREMIUM.

One of our LEVEL PREMIUM Companies that has issued some policies on **The Natural Premium Plan**, calling them "YEARLY RENEWABLE POLICIES," charges, *the first year*, very nearly the LEVEL PREMIUM rate, after which the rate drops to the *natural net premium* loaded about seventy-five per cent., and—increases annually thereafter, during the balance of life. For instance, the gross rate at age 25, for $1,000 of insurance, the *first* year, is $18.84; the *second* year, it is $13.54; the *third* year, age *twenty-seven*, it is $13.63; the *tenth* year, when the insured has attained the age of *thirty-four*, it is $14.35; the *fifteenth* year, at age *thirty-nine*, it is $15.22; the *twentieth* year, age *forty-four*, it is $16.65; the *twenty-sixth* year, age *fifty*, it is $20.09; the *thirty-first* year, at age *fifty-five*, it is $25.70; the *thirty-sixth* year, age *sixty*, it is $35.34; the *forty-first* year, at age *sixty-five*, it is $51.63; and, the *forty-sixth* year, when at the age of *seventy*, it is $79.16 for each $1,000 of insurance, annually increasing, thereafter, as the policy-holder's age increases.

Assuming that the net rates of the company referred to are based on the AMERICAN EXPERIENCE TABLE OF MORTALITY AND 4 PER CENT. INTEREST, they are the same as those contained in col. (3) of our table C. The net rate, therefore, for $1,000 of insurance at age 25, the first year, is $7.75, but the company charges for *this first year*, $18.84, which is the net premium loaded over 143 per cent. The *second* year the company charges $13.54. The net premium is $7.82. The net premium is therefore loaded more than 73 per cent. to produce the Gross Premium. At age *fifty*, the *net* rate is $13.25, and the company's *gross* rate is $20.09, which shows a loading of nearly 52 per cent. At age seventy, the *net* rate is $59.61, and the company's *gross* rate is $79.16, showing a loading of only about 33 per cent. The company gives no rating after 70. From age 50 to 70, the loading varies from 52 to 33 per cent. of the net rates. It was probably discovered that a *uniform* per centum loading is not equitable and hence a remedy was attempted by grading the loading from ages 26 to 70, inclusive, from 73 to 33 per cent. This grading is an *improvement* but not a *remedy*.

The gross rates of this company are non-participating; that is, a policy holder receives no dividends, and, therefore, there is no adjustment, from year to year, of *over charges* for mortality or expenses.

Some ten or fifteen years ago there began to be manifested a pretty general demand for cheaper insurance. Men in our best business circles wanted life insurance *for the productive period of life* in addition to what they called "*permanent*" insurance. To supply this demand assessment societies sprang into existence all over this country. They came like the locusts of Egypt. They were liberally patronized.

For a few years, the death rate was low and the assessments few. The membership believed, as they were ignorantly taught, that the death rate would never be *much* higher, if any, and henceforth life insurance was to be obtained at a reasonable price. These societies were organized, almost without exception, by men ignorant of the fundamental principles of life insurance. The results were what every intelligent insurance man predicted. But the *demand* for cheap, temporary insurance remained.

About this time one of the most scientific insurance men in America, known and acknowledged as such both in this and foreign countries; educated for the navy; Actuary for sixteen years of the largest life insurance company in the world; author of the "CONTRIBUTION SYSTEM OF DIVIDENDS," used by many of the LEVEL PREMIUM COMPANIES in America in the annual distribution of their surpluses, and author of THE AMERICAN EXPERIENCE TABLE OF MORTALITY; a man familiar with the vital statistics of both hemispheres,—this man finally directs his attention to the very general demand for *cheap, scientific* **life insurance** for the productive period of life. The intelligent reader has already recognized the character alluded to in the person of SHEPPARD HOMANS, of New York city.

From his familiarity with life insurance mathematics and vital statistics, MR. HOMANS knew, from the start, that the demand for cheap, temporary insurance must be supplied from The *Natural Premiums*. These must in some way be utilized in the solution of the problem. The first step in that direction was not altogether successful. The *natural premiums* were used, but he committed the error of adopting, substantially, the *uniform per centum* loading heretofore explained. He was on new ground—to him—with his brain full of *Level premium* methods and usages, and it would have been remarkable had he not made some such mistake. His first system of **Natural premium** insurance was the natural premium loaded about as he had been accustomed to load the *net level* premium, with no **special reserve** to fall back on in the event of excessive mortality, and to serve as a kind of cement with which to hold the membership together. With the system of loading adopted, expenses were high, and the *legal* reserve was all used in payment of death losses.

In 1883, Mr. Homans revised his system, with a view of remedying its imperfections. How far he has succeeded, the reader can judge from the following description of the new plan :

SHEPPARD HOMANS' NATURAL PREMIUM SYSTEM OF RENEWABLE LIFE INSURANCE.

Special features.—Expenses are limited, by policy contract, to $3.00 per annum,—and a proportional amount for any fractional part of a year—, on each $1,000 of insurance, regardless of age. A definite amount of insurance—$1,000 to $15,000, on a single healthy life—is *guaranteed* for a term of one year, six months, three months, or even *one* month, at the option of the applicant, with the right to renew and extend, indefinitely, without medical re-examination. The maximum rates for *mortuary premiums* increase, from year to year, as age advances, and they are printed on the back of every policy. A new member must pay the *maximum* rate, according to his age, *in advance*, together with the expense fee, and also the Membership and Medical Examination fees ; the last two are required but once. If, at the end of the term for which a maximum mortuary premium shall have been paid, it shall be found that only a fractional part of said premium had been used in payment of death claims and to augment the special mortuary reserve fund, the *unused* portion will be credited in part payment of the next renewal premium, and so on. Seventy-five per cent. of the maximum mortuary premium constitutes the *current death-fund*, and twenty-five per cent. the *special mortuary reserve fund.*

The advantages claimed by Mr. Homans are the complete separation of the expense premium from the insurance part or the provision to meet current death claims and to create the GUARANTEE FUND. The former is limited by policy contract, after the first payment, to $3.00 per annum on each $1.000 insured *at all ages*, while the latter is treated as a trust fund from which not one dollar can be used for expenses of management.

Only one company in the United States is at present doing business under Mr. Homans' system. The following are some of the leading features of its policy-contract : "**Seventy-five per cent. of each mortuary premium** paid hereon, will be at once deposited *in trust* in the HANOVER NATIONAL BANK of New York, or such other bank as may be designated by the Society, and shall constitute the DEATH FUND, to be used solely in settlement of death claims. **The residue of each mortuary premium** will be deposited with the FARMERS' LOAN AND TRUST COMPANY OF NEW YORK, or invested in securities authorized by law for investments by Trust Companies, for the GUARANTY FUND additional to the capital and as a further protection to policy-holders. The full share of the surplus thus obtained, contributed by each policy remaining in force for ten years, and annually thereafter, may be applied to lessen future premiums, or paid in cash."

This society allows the insured under this policy to travel and visit within the following geographical limits, and to make voyages in first-class vessels to and from places within said limits, during the periods hereinafter respectively provided ·

1.—"In the United States of America and its Territories except in places south of 32° north latitude where at the time of such visits or travel yellow fever or cholera exists. Within the Dominion of Canada. In Europe north of the 42d parallel of north latitude."	During the entire year.

ALSO ;

2.—"On the continent of Europe, south of the 42d parallel of north latitude, and in Egypt, Palestine, and Syria."	During the months of Nov., Dec., Jan., Feb., Mar.

"**Occupation and Employments.**—The insured shall not engage in blasting, mining, submarine labor, aeronautic travel or excursions, the manufacture, handling or transportation of inflammable or explosive substances, service upon any railroad or any steamboat or other vessel, or in millitary or naval service of any kind in time of war, without the consent of the Society in writing, under penalty of forfeiture of the policy."

" Should claim be made under this policy by reason of death happening three or more years after its date, the foregoing conditions as to residence, occupation and the payment of premiums and expense charges having been complied with, such claim is **hereby declared to be incontestable.**"

This company issues nearly all its policies on the *quarterly* renewable plan, but, if preferred, a policy *can* be made renewable, semi-annually or annually.

Quarterly Maximum Mortuary Premiums for each $1,000 insured,—other amounts in the same proportion—, are printed in bold type on the back of every policy, under which is the following: "The mortuary premiums, after the first payment, required to continue and extend the insurance can never exceed the maximum quarterly rates named in the above Table but will be diminished by the surplus portion of the preceding premiums not appropriated by reason of actual claims by death."

THE MAXIMUM MORTUARY PREMIUMS named above, are found in the following Table, (Col. 3,) which MR. HOMANS has kindly extended to age 80, at our request :

TABLE D.

Showing the Quarterly Maximum Guaranty Fund ; the Quarterly Maximum Death fund ; the Quarterly Maximum Mortuary Premium ; the Quarterly Expense Charge, and the Quarterly Maximum Gross Premium for a Quarterly Renewable Natural Premium Policy, of $1,000, at each age, from 15 to 80 inclusive.

Age.	Guaranty Fund.	Death Fund.	Maximum Mortuary Premium.	Quarterly Expense Charge.	Maximum Gross Premium.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
15 to 25	$ .75	$ 2.25	$ 3.00	$ .75	$ 3.75
26	.77	2.29	3.06	.75	3.81
27	.78	2.34	3.12	.75	3.87
28	.80	2.38	3.18	.75	3.93
29	.81	2.43	3.24	.75	3.99
30	.82	2.48	3.30	.75	4.05
31	.83	2.50	3.33	.75	4.08
32	.85	2.54	3.39	.75	4.14
33	.86	2.59	3.45	.75	4.20
34	.87	2.61	3.48	.75	4.23
35	.89	2.65	3.54	.75	4.29
36	.90	2.70	3.60	.75	4.35
37	.92	2.74	3.66	.75	4.41
38	.94	2.81	3.75	.75	4.50
39	.96	2.88	3.84	.75	4.59
40	.98	2.95	3.93	.75	4.69
41	1.01	3.01	4.02	.75	4.77
42	1.04	3.10	4.14	.75	4.89
43	1.07	3.19	4.26	.75	5.01
44	1.10	3.31	4.41	.75	5.16
45	1.15	3.44	4.59	.75	5.34
46	1.20	3.60	4.80	.75	5.55
47	1.26	3.78	5.04	.75	5.79
48	1.32	3.96	5.28	.75	6.03
49	1.39	4.16	5.55	.75	6.30
50	1.47	4.41	5.88	.75	6.63
51	1.56	4.68	6.24	.75	6.99
52	1.67	4.99	6.66	.75	7.41
53	1.78	5.33	7.11	.75	7.86
54	1.90	5.69	7.59	.75	8.34
55	2.04	6.12	8.16	.75	8.91
56	2.19	6.57	8.76	.75	9.51
57	2.36	7.09	9.45	.75	10.20
58	2.55	7.65	10.20	.75	10.95
59	2.75	8.26	11.01	.75	11.76
60	2.99	8.95	11.94	.75	12.69
61	3.42	10.26	13.68	.75	14.43
62	3.70	11.09	14.79	.75	15.54
63	4.01	12.01	16.02	.75	16.77
64	4.34	13.03	17.37	.75	18.12
65	4.72	14.15	18.87	.75	19.62
66	5.12	15.37	20.49	.75	21.24
67	5.57	16.69	22.26	.75	23.01
68	6.05	18.16	24.21	.75	24.96
69	6.58	19.73	26.31	.75	27.06
70	7.14	21.42	28.56	.75	29.31

TABLE D.—Continued.

Age.	Guaranty Fund.	Death Fund.	Maximum Mortuary Premium.	Quarterly Expense Charge.	Maximum Gross Premium.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
71	$ 7.74	$23.22	$ 30.96	$ .75	$ 31.71
72	8.57	25.69	34.26	.75	35.01
73	9.08	27.22	36.30	.75	37.05
74	9.82	29.45	39.27	.75	40.02
75	10.68	32.02	42.70	.75	43.45
76	11.54	34.63	46.17	.75	46.92
77	12.56	37.66	50.22	.75	50.97
78	13.67	41.01	54.68	.75	55.43
79	14.93	44.80	59.73	.75	60.48
80	16.34	49.03	65.37	.75	65.42

Note 1.—Column 3 in the above Table shows the **maximum** amount that a policy-holder, who is insured for **$1,000**, can ever be compelled to pay in any one quarter, at any one of the ages named, for *death losses* and to augment the **Guaranty Fund.** At age 40, for instance, he might be called upon to pay **$3.93** per Quarter during that year,—*no more*—, **$2.95** of which would go into the **Death Fund**, and 98 cents to the **Guaranty Fund.** If this same policy-holder should live to be fifty years old, he could be called upon to pay **$5.88** per Quarter, during the year, —*but no more*—, **$4.41** of which would go into the **Death Fund** and **$1.47** to the **Guaranty Fund**, and similarly with reference to any other age, on a policy of **$1,000**, and proportionally for any other amount of insurance.

Note 2.—That portion of the general **Guaranty Fund**, contributed by any one policy-holder,—as shown, for instance, in Col. 1 in Table D.—, and invested as per policy-contract, can not be used by said policy-holder for any purpose, whatever, until he has been insured in the company *ten consecutive years*, after which he may use it in payment of future premiums; or, in the purchase of paid-insurance; or, he may draw it out *in cash*. If his policy be discontinued for any reason, before the expiration of the ten years, his portion of the **Guaranty Fund** will be forfeited to the company. In this respect every policy-holder's contribution to the Guaranty Fund constitutes a Tontine Element—the Tontine period being ten years.

Note 3.—Column 5, Table D, shows the Maximum contribution to the **Guarantee** and **Death** Funds, and also to the **Expense Fund** excepting the *first quarter*. When the first Quarterly premium is paid, the following additional *expense* charges are added to the Maximum Gross premium as shown in Col, 5 :

ON $1,000 OF INSURANCE,	$ 8.00
ON $2,000 OF INSURANCE	12.00
ON $3,000 OF INSURANCE,	15.00
ON $4,000 OF INSURANCE,	18.00
ON $5,000 OF INSURANCE	20.00
ON $10,000 OF INSURANCE,	30.00
ON $15,000 OF INSURANCE	50.00
and	
A MEDICAL EXAMINATION FEE,	3.00

These extra *expense* charges are required *only for the first Quarter*. *After* the first Quarter, the amounts in Col. 5, are the *utmost* limit of payments, that can ever be required from a policyholder, in this company, under its *present* premium rates.

The only Company in the United States that has adopted the Homans System in its entirety is "**The Provident Savings Life Assurance Society of New York.**" This is a regular company, incorporated February 25th, 1875, under the Insurance Laws of New York. It has $100,000 of U. S. Government bonds on deposit with the Insurance Department of the State. In 1883, this company adopted Homans' *new* system; since which time its entire new business, amounting now to over ONE MILLION A MONTH, and rapidly increasing, has been on that plan. Policies are issued on *one life* for **one** to **fifteen thousand dollars.**

The following table gives actual results, as therein set forth:

TABLE E,

SHOWING THE ACTUAL COST OF $10,000 OF INSURANCE ISSUED AT THE AGES NAMED FOR THE YEARS 1883, 1884 AND 1885.

Age at Issue.	Cost in 1883.	Cost in 1884.	Cost in 1885,
30	$ 74.00	$ 74.00	$85.00
35	74.80	77.20	89.00
40	76.10	82.40	95.50
45	78.30	91.20	106.50
50	82.60	I08.40	128.00
55	90.20	138.80	166.00

NOTE.—*The above* comprises Membership fees, Medical Examination fees, Expense charges and Mortuary premiums. It is proper to remark that the above is a record of policies during the first three years of the company's business on this new plan, and that there were no death losses the first year.

CHAPTER XI.

THE ASSESSMENT SYSTEM.—ITS DISTINGUISHING CHARACTERISTICS.—REQUISITES FOR SOUNDNESS AND PERMANENCY.—THE HARPER PLAN, AS OPERATED BY THE MUTUAL RESERVE FUND LIFE ASSOCIATION.—THE PRESIDENT'S LETTER.—FULL TEXT OF CERTIFICATE OF MEMBERSHIP.—APPLICANT'S DECLARATION.—DEED OF TRUST WITH THE CENTRAL TRUST COMPANY OF NEW YORK —ADMISSION FEES.—ANNUAL DUES OR EXPENSE FEES.—RATES OF ASSESSMENT, ETC., ETC.

III. THE ASSESSMENT SYSTEM.

ITS DISTINGUISHING CHARACTERISTICS.

1. **Premiums—usually called assessments—are only required to be paid, *after* the death of a member or several members has occurred; in some of the societies, after *each* death; in others, at fixed dates, on the first of every month; or, on the first of every other month; or, once in three or four months, the amount of assessment being determined by the number of deaths having occurred since the last preceding assessment.**

2. **The contract between the company or society and the insured is called, by some, "*a Certificate of Membership*"; by others, "*a Policy*"**

3. **The certificate, or policy, never designates a definite sum to be paid by the society to the beneficiary named therein.**

4. **The rate of assessment in one class of societies is a *fixed* rate; that is to say, the members are divided into classes according to their respective ages, something like the following, for instance: All from 21 to 30, inclusive, constitute the First Class; those from 31 to 40, inclusive, the Second Class; those from 41 to 48, inclusive, the Third Class; those**

from 49 to 55, inclusive, the Fourth Class; and those from 56 to 65, inclusive, the Fifth Class; the classification extending no further than age 65! Upon the death of a member the rate of assessment for each $1,000 of certificate depends upon the class he is in. The rate is fixed at date of admission, and remains unchanged so long as his membership continues. In another class of societies the classification may be the same but the rating changes. For example, the new member may be 28, and consequently, he is in the first class at date of entry, but when he becomes 31 he is a member of the second class; when 41, the third class, and so on; his rate of assessment being changed to a higher one whenever he goes from one class to another. In still another class of societies, whenever an assessment is levied, each member is assessed according to his *then* age, no matter what his age *was* when he entered the society. If 21 years old when an assessment is made, he pays according to the risk the society is carrying on him at that age; if 22, the rate is a little higher, because the risk is greater; if 23, the rating is still higher, and so on, through all the different ages. In some of these societies the rating is a little higher than needed for the actual current death rate, and the surplusage goes to the gradual accumulation of a reserve fund that may be used as designated in the certificate of membership. This voluntary reserve fund is not generally available until the insured has been a member for several years—five to fifteen generally—and it is called by different names, and is available at different times for various purposes, according to the different ideas of the organizers of different societies. We have not the space to name *all*, or one-hundredth part of the different phases of assessment insurance in this country. The principles, however, underlying sound assessment insurance, are few, and these we intend to make prominent.

REQUISITES FOR SOUNDNESS AND PERMANENCY.

a.—"Nothing is more proverbially uncertain," says DR. BABBAGE, "than the duration of human life when the maxim is applied to an *individual;* but there are few things less subject to fluctuations than the average duration of life in a multitude of individuals."

DR. SOUTHWOOD SMITH says: "Mortality is subject to a law the operation of which is as regular as that of gravitation."

The concurrent testimony of all writers on the subject of vital statistics is that the law of mortality is as certain in its operations as are those of light, heat, electricity and chemical affinity. This law is epitomized in the Actuaries', and the American Tables of Mortality, found in other parts of this book.

By the former, out of 1,000 persons living at the beginning of a year, at age 20, *seven* die during the year; at age 30, *eight;* at age 40, *ten;* at age 50, *sixteen;* at age 60, *thirty;* at age 70, *sixty-five;* at age 80, *one hundred and forty;* at age 90, *three hundred and twenty-four;* and at age 99, *one thousand!*

The law of Mortality says—and every company or society that disregards it does so at great peril—that $7.01 must be charged for $1,000 of insurance, for one year, on a life at age 20, besides an equitable amount for expenses; when that life attains the age of 30, the sum of $8.10 must be charged for the same amount of insurance for one year; at age 40, the sum of $9.96 must be charged; at age 50, the charge must be $15.33; at age 60, not less than $29.17; at 70, at least $62.44; at 80, it is not safe to charge less than $135.01; and at 90 and 99, for $1,000 of insurance for one year, the sum of $311.28 and $961.54 must be charged, respectively, and for intermediate ages, amounts proportional to the respective ages.

A maximum sum, therefore, considerably larger than that indicated by the law of Mortality—which cannot be fully utilized except with a very large membership—should be fixed to begin with for each $1,000 of insurance at

each age, increasing every year, thereafter, commensurate with the increasing liability of the member to die; and this maximum should be named in the certificate of membership as the extreme limit of assessments on any one person for any one year.

The maximum sum to be assessed, as above should provide for a special reserve fund, available only to the person contributing it after five to fifteen years' consecutive membership. If the certificate were to lapse before the expiration of the period named in the certificate said special reserve accumulations should be equitably credited to persistent members. This would operate as a kind of cement to hold the membership together and to reduce heavy mortality at the older ages.

b.—**The necessary expenses of a society should be provided for by the collection, from each member, annually in advance, or when an assessment is paid, or both, regardless of age, of a uniform fixed amount for each $1,000 of insurance named in the certificate. A uniform per centum loading on an increasing net premium is inequitable.**

c.—**Good Management.**

In illustrating assessment insurance we shall use only a few of the best forms.

I. THE HARPER PLAN.

Under date of Nov. 10, 1885, a communication was addressed to MR. HARPER, of New York city, asking him to define in as brief a manner as would be consistent, his plan of assessment insurance. In reply, Nov. 18th, the following communication was received:

"MERVIN TABOR, Esq.
"*Actuary Ins. Dept. of Illinois:*

"The system of Life Insurance original with and employed by the **Mutual Reserve Fund Life Association**, comprises these distinct and peculiar features:

"The collection by periodical installments at intervals of sixty days, of the natural premiums of the American Table of Mortality, or such a proportion thereof as may be required to discharge current death claims.

"The collection, at the same time and in the same way, of an amount equal to one-third of the above described premiums, and the funding of the same as surplus, or reserve fund, which can be applied in only two ways, to wit: to be drawn upon in case the mortality experienced should exceed that predicted by the American Table and after fifteen years to be used for the same purpose in lieu of the allotted contributions of surviving and persistent members.

"The interest earnings and Tontine profits accruing from this fund are applied each year to the payments of current death charges thereby reducing the contributions of the members and retarding the otherwise unavoidable increase of the natural series of premiums. Very truly,

(Signed). E. B. HARPER,
"*President.*"

On the back of every **certificate of membership** is the following

TABLE OF RATES:

Admission Fee.

For every certificate of	The admission fee is
$ 1,000	$ 8.00
2,000	12.00
3,000	15.00
5,000	20.00
10,000	30.00

The dues for expenses are $2.00 on each $1,000 of certificate, payable annually in advance.

Assessment Rate Table.

The basis of the Assessment Rate for each member, according to the age taken at the nearest birth-day, on each $1,000 *of certificate, is as follows:*

Age.	Rate.	Age.	Rate.	Age.	Rate.
15 to 25	$1.00	39	$1.40	53	$2.75
26	1.02	40	1.44	54	3.00
27	1.04	41	1.48	55	3.25
28	1.06	42	1.52	56	3.50
29	1.08	43	1.56	57	3.75
30	1.10	44	1.60	58	4.00
31	1.12	45	1.64	59	4.25
32	1.14	46	1.68	60	4.50
33	1.16	47	1.72	61	5.00
34	1.20	48	1.76	62	5.50
35	1.24	49	1.80	63	6.00
36	1.28	50	2.00	64	6.50
37	1.32	51	2.25	65	7.00
38	1.36	52	2.50	..	......

Remark.—No assessment will be made while there remains in the death fund a sum sufficient to pay the existing claims in full.

On the back of every **Certificate of Membership** is printed in bold type the following Deed of Trust:

DEED OF TRUST WITH THE CENTRAL TRUST COMPANY OF NEW YORK.

Agreement.

THIS AGREEMENT, made the *18th day of October*, 1882, between the MUTUAL RESERVE FUND LIFE ASSOCIATION, a Corporation duly organized under the Laws of the State of New York, and located in the City of New York, party of the first part, and the CENTRAL TRUST COMPANY OF NEW YORK, a corporation duly chartered by said State, and located in said City of New York, as Trustee, party of the second part,

WITNESSETH: That, the said party of the first part, desiring to set aside a Reserve Fund for the exclusive benefit of its members, the said party of the second part hereby agrees to receive the same and any future additions thereto, as Trustee, upon the following conditions:

FIRST. Such rate of interest shall be payable semi-annually by said party of the second part on the current deposits, to the credit of said Reserve Fund, as shall be, from time to time, mutually agreed upon.

SECOND. Said Trust Company shall, from time to time, upon the written order of the President of said Association, invest said fund, or any portion of it, in such United States Bonds, State, County or City securities, or on such bond and mortgage as shall be designated by the Board of Directors of said Association and approved by the President of said Trust Company. Said securities shall be taken only in the name of said Association, but shall be held by said Trust Company subject to the conditions of this contract, and with Power of Attorney from said Association to collect the interest on the same. Any of such securities shall be sold by said Trust Company, upon the written order of the President of said Association accompanied by a certified copy of the vote of the Board of Directors of said Association authorizing such sale, and the proceeds shall be deposited to the credit of the Reserve Fund Account with the said party of the second part.

THIRD. The semi-annual interest on the current deposits and the interest on investments shall, as it matures, be transferred to the credit of the Death Fund Account of the Association in such Bank or Trust Company in New York City as shall be designated by the Board of Directors of said Association, provided, that at the time of the maturing of any such interest the Constitution of the Association does not provide otherwise for its appropriation.

FOURTH. Upon receipt of a certified copy of a vote of the Board of Directors of said Association, authorizing the transfer of any portion of said Reserve Fund to the Death Fund Account above mentioned, such transfer shall be made by said Trust Company. But in every case the resolution of the Board of Directors authorizing such transfer shall state that such transfer is authorized by sections 3 and 4 of Article XI. of the Constitution of the Association.

FIFTH. If the Board of Directors of said Association shall for any reason deem it to be expedient to order a transfer of the whole or any portion of said Reserve Fund, including the investments, to any State Insurance Department or to any other Trust Company organized under the laws of the State of New York, such transfer shall be made by said party of the second part, provided, that no such transfer shall be made to any Trust Company until the delivery to said party of the second part of a certified copy of the order of the Board of Directors of said Association, authorizing the transfer, and a certified copy of the contract under which the designated Trust Company shall accept the transfer; said contract to be indorsed as approved by one of the Justices of the Supreme Court of the District in which the principal office of said Association shall be located.

SIXTH. Said party of the second part shall be allowed a reasonable compensation for making investments of the Reserve Fund and collecting interest on the same, and for realizing on any of the securities of said Fund, and for any authorized expenses of any litigation arising out of this contract, without fault of the party of the second part.

SEVENTH. In case of a dissolution of the party of the first part, the entire Reserve Fund shall be divided among the then members of the Association, proportionally to the gross amount of assessments paid by said members respectively to said Association, or shall be distributed in such other equitable manner as the courts shall direct.

EIGHTH. The party of the second part is to be answerable only for its own default, malfeasance or negligence in carrying out this agreement.

IN WITNESS WHEREOF, the party of the first part, and the party of the second part, as Trustee, have hereunto caused to be affixed their respective corporate Seals, and their respective Presidents and Secretaries have hereunto set their hands this 18th day of October, 1882.

MUTUAL RESERVE FUND LIFE ASSOCIATION,
[SEAL.] By E. B. HARPER, *President.*
F. T. BRAMAN, *Secretary.*

CENTRAL TRUST COMPANY OF NEW YORK,
[SEAL.] By H. F. SPAULDING, *President.*
CH. P. BABCOCK, *Secretary.*

Every applicant for insurance under the **Harper plan**, must sign, *in the application*, with the beneficiary, the following

APPLICANT'S DECLARATION.

IT IS HEREBY WARRANTED by the applicant, that the answers and statements in this application, whether written by his own hand or not, are full, complete, and true, and it is agreed that this warranty shall form the basis and shall be a part of the contract between the undersigned and THE MUTUAL RESERVE FUND LIFE ASSOCIATION, and are offered to said Association, as a consideration of the Contract applied for, and subject to all the limitations and requirements of the Constitution and By-Laws of said Association, with the amendments made or that may hereafter be made thereto, all of which are hereby made part of any Certificate that may be isssued on this Application. And the applicant further agrees that if any of the statements, representations, or answers made herein are not true, full, and complete, or if he or his representatives shall omit or neglect to make any payment as required by the conditions of such Certificate, or by the Constitution and By-Laws of said Association, then the Certificate to be issued hereon shall be null and void, and the officers of said Association may cancel said Certificate and the same shall be returned to them, and all money paid thereon shall be forfeited to said Association. It is hereby expressly agreed that the person soliciting or taking this application, also the Medical Examiner shall be and is my Agent, and not that of said Association as to all answers and statements in this application, and inasmuch as only the officers at the Home Office of the Association, in the City of New York, have authority to determine whether or not a Certificate shall issue on any Application, and as they act on the written statement and representations referred to, no statements, representations or information made or given by or to the person soliciting or taking this Application for a Certificate, or by or to any other person, or to the Association, shall be binding on the Association, or in any manner affect its rights, unless such statements, representations, or information be reduced to writing, and presented to the officers of the Association at the Home Office, in this Application. That under no circumstances shall the Certificate hereby applied for be in force until the actual payment to, and acceptance of, the first annual dues by the Association, and actual delivery of the Certificate to the applicant, with a receipt for the payment of the first annual dues, signed by the President, Secretary, or Treasurer of the Association, during the life time of the applicant. And it is further agreed that the Association shall not be liable under said contract if death shall be caused by the hands of justice, or in consequence of the violation of any law.

The applicant may sign for the beneficiary,	
Dated at............ ...188	Signature of Applicant for membership in this Association.
This risk is recommended by me, and I am witness to the signatures.	....
	Name of the beneficiary.
......................Agent.	....
Agent's Post Office Address....	

The above **Applicant's Declaration** is a part of the application, and, therefore, becomes a part of every **certificate** contract. It should be very carefully read by the applicant before he signs it.

The following is a correct copy of the text of the **certificate** issued by the **Mutual Reserve Fund Life Association**:

CERTIFICATE OF MEMBERSHIP.

"**Mutual Reserve Fund Life Association**, BRYANT BUILDING, CORNER NASSAU AND LIBERTY STREETS, NEW YORK.—**In consideration** of the application for this certificate of membership, which is hereby referred to and made a part of this contract, and of each of the statements made therein, which, whether written by his own hand or not, every person accepting or acquiring any interest in this contract hereby adopts as his own, admits to be material and warrants to be full and true, and to be the only statements upon which this contract is made; and in further consideration of the Admission Fee paid, and of the dues for expenses to be paid on or before the... ....day of.... .... in every year during the continuance of this certificate, and of the further payment of all Mortuary Assessments, payable at the Home Office of the Association, in the City of New York, within thirty days from the first week day of the months of February, April, June, August, October and December of each and every year during the continuance of this certificate (or from such other periods as the Board of Directors may from time to time determine), and within thirty days from the day of the date that each assessment is ordered, the **Mutual Reserve Fund Life Association,** from and after the delivery hereof with a receipt for the payment of the first annual dues signed by the President, Secretary, or Treasurer of the Association, does hereby receive........ of .... county of ....State of........ as a member of said Association.

"Within ninety days after receipt of satisfactory evidence to the association of the death of the above-named member, during the continuance of this certificate of membership, upon the following conditions, there shall be payable to ....of.........county of..........State of..........if living at the time of said death, otherwise to the legal representatives of said member, the sum of ...... **dollars** from the DEATH FUND of the Association, at the time of said death, or from any moneys that shall be realized to the said FUND from the next assessment to be made as hereinafter set forth, and no claim shall be otherwise due or payable, except from the RESERVE FUND as hereinafter provided:

"1. If, at such date as the Board of Directors of the Association may from time to time fix or determine for making an assessment, the Death Fund is insufficient to meet existing claims by death, an assessment shall then be made upon every member whose certificate is in force at the date of the last death assessed for, and said assessment shall be made at such rates, according to the age of each member, as may be established by the said Board of Directors, and the net amount received from such assessment (less twenty-five per cent, to be set apart for the Reserve Fund) as provided in the Constitution and By-laws of said Association, shall go into the DEATH FUND.

"II. The net earnings of the Association, together with twenty-five per cent. of said net receipts from each assessment, shall constitute a "Reserve Fund," which shall be deposited with a Trust Company, or companies, or departments constituted by governmental or legal authority, and upon the order of the Board of Directors of the Association shall be securely invested in United States Bonds, mortgages, or other interest bearing securities, for the exclusive benefit of the members of the Association, and the interest on the same, as it accrues, shall be placed to the credit of the "Death Fund," to be used in providing for the current death claims. The Reserve Fund above $100,000, and in excess of sums represented by outstanding bonds, may be applied to the payment of claims in excess of the American Experience Table of Mortality, and when any claim by death is due, after a Mortuary Assessment upon each member of the Association has been made, according to the rules of the association, to making up any deficiency that may then exist in the Death Fund.

"III. After the expiration of each period of five years, during the continuance of this Certificate of Membership, a bond shall be issued for an equitable proportion of the Reserve Fund, and the principal of said bond shall be available ten years from its date towards paying future dues and assessments under this certificate; and, should membership hereunder cease from any cause, said bond shall at once become null and void, and any portion of said principal not thus used, shall be applied to increase the bonds issued at the next quinquennial apportionment to other members of the association holding certificates issued during the same year as this certificate, and at each apportionment the rate of assessments may be changed to correspond with the actual mortality experienee of the association.

"IV. No agent of the association has authority to make, alter or discharge contracts, waive forfeitures, extend credit, or grant permits, and no alteration of the terms of this contract shall be valid, and no forfeiture thereunder shall be waived, unless such alteration or waiver shall be in writing, and signed by the president and one other officer of the association.

"V. This contract is not binding until the written application therefor shall have been received, accepted, and this certificate issued by the association, and delivered to said member, in person, during his life, nor until the first payments due there under shall have been fully received in cash by the association, or by its agent furnished with a receipt therefor as herein provided, and shall be subject to all the provisions and conditions contained in the Constitution and By-laws of this association, with the amendments made and that may hereafter be made thereto.

"VI. An assessment notice or other notice addressed to a member, or other person designated by him, at his post office address as it appears upon the books of the association, shall be deemed a sufficient notice, and affidavit of, or proof of addressing and mailing the same according to the usual course of business of said association, shall be taken and admitted as evidence, and shall be, constitute, and be deemed and held to be conclusive proof of due notice to said member and every person accepting or acquiring any interest hereunder.

"VII. This association will not take notice of any assignment of this certificate until a duplicate or a certified copy thereof shall be delivered to the association at its Home Office, and approved by its secretary or assistant secretary, and under no circumstances will the association assume any responsibility for the validity of such assignment. An insurable interest must be shown by all claimants, at time of claim hereunder; and claims by any creditor as beneficiary, or assignee, shall not exceed the amount of the actual *bona fide* indebtedness of the member to him, together with any payments made to the association under tnis certificate by such creditor, with interest at six per cent., and this certificate as to all amounts in excess thereof shall be void.

"VIII. The proofs of the death by which this contract matures shall include full and true answers, under oath, to all questions asked by the association, relating to the life, health and death of the above named member.

"IX. Death of the member by his own hand, whether voluntary or involuntary, sane or insane at the time, is not a risk assumed by the association in this contract, but in every such case there shall be payable, subject to all the conditions of this contract, a sum equal to the amount of the assessments paid by said member, with six per cent. interest; but the Board of Directors or the Executive Committee of the Association at its option may, in writing, waive this condition.

"X. The entire contract contained in this certificate and said application, taken together, shall be governed by, subject to, and construed only according to the Constitution, By-Laws, and Regulations of said Association, and the laws of the State of New York, the place of this contract being expressly agreed to be the Home Office of said association in the city of New York; and said Association shall not be liable, nor shall any suit or proceeding be brought, after the lapse of one year from the date of the death of said member.

"XI. This certificate is also issued and accepted subject to the express condition that if any of the payments above stipulated shall not be paid on or before the day of the date as above provided, at the Home Office of the Association in the City of New York, or to a collector of the association furnished with a receipt signed by its president, secretary or treasurer; or if said member shall, for the aggregate period of forty-eight hours reside, or remain, in any city, town or district after yellow fever shall have been declared epidemic by the public authorities of said city, town or district, and before such epidemic shall have been in like manner declared no longer existing, and death shall ensue from yellow fever; or if the member during the continuance of this certificate shall engage in blasting, mining, submarine or æronautic operations, or the production of highly inflammable or explosive substances; or upon a railroad as brakeman or baggageman, or as conductor of a freight train; or in working or managing a steam-engine in any capacity; or shall engage in service upon a sailing vessel, or shall enter any military or naval service whatsoever (the militia when not in actual service excepted), without the consent of this association therefor, in either of the foregoing cases, given in writing by the president or secretary thereof, and death shall ensue by or through violence, accident or injuries received while engaged in such employment or operations, or any of them, or if death shall be caused by or from the effects of engaging in any duel or in violation of any law, or at the hands of justice; or if any statements made in the application for this certificate are in any respect untrue; then, and in each and every such case, the consideration of this contract shall be deemed to have failed and this certificate shall be null and void, and all payments made thereon shall be forfeited to the association.

"IN WITNESS WHEREOF, the said Mutual Reserve Fund Life Association has caused its corporate seal to be hereunto affixed, and these presents to be signed by its president, or vice-president, and secretary, at the City of New York, this... ....day of ...., one thousand eight hundred and eighty......

.......................*President.*

.......................*Secretary*."

Articles (I.) (II.) and (III.), of the above *certificate of membership* are *vital* to the success and permanency of the association. The last clause of (III.) is *very* important, "*and at each apportionment the rate of assessments may be changed, to correspond with the Actual Mortality Experience of the Association.*"

This SOCIETY was incorporated Feby. 9th, 1881; re incorporated Dec, 26th, 1883, under laws of the State of New York, and it has $100,000 invested in UNITED STATES BONDS, in trust for its members, and deposited with the Insurance Department of the State of New York.

Under date of July 1st, 1885, the ASSOCIATION claims that its *new business* approximates *five and one-half million dollars per month!*

The Society claims as its "PILLARS OF STRENGTH," **Reserve Fund; Graded Rates; Selected Risks; Tontine System; An Open Ledger,** and **A Trust Company,** as *Trustee to protect the* **Reserve Fund!**

TABLE

Showing Actual Assessments for annual dues, death losses and reserve fund, on a certificate of $1,000, each year, from 1881 to 1885, inclusive, issued at the ages named.

YEAR.	Age 30.	Age 33.	Age 35.	Age 43.	Age 49.
1881	$4.20	$4.32	$4.48	$5.12	$5.60
1882	5.30	5.48	5.72	6.68	7.40
1883	8.60	8.96	9.44	11.36	12.80
1884	8.60	8.96	9.44	11.36	12.80
1885	10.25	10.70	11.40	13.70	15.50
Totals for 5 years...	36.95	38.42	40.48	48.22	54.10
Average per year...	7.39	7.68	8.10	9.64	10.82

The above does not include membership and medical examination fees, which are required to be paid the first year only. The table shows the *first* five years experience of the MUTUAL RESERVE FUND LIFE ASSOCIATION, and, according to (III) of certificate contract, every holder of a certificate is entitled to a **Bond** for an equitable proportion of the RESERVE FUND that has been accumulating during the five years, the principle of which will be available ten years from its date towards paying future dues and assessments. We regret not being able to inform our readers the amount of bond for each one-thousand dollars of certificate issued in 1881 at the above ages.

NOTE.—Since the above was in type, we have received an explanatory letter from the President, from which we give the the following extract:

"The amount of the bond was not given for the reason that it has not been determined as yet. We find that the dividend will be within a fraction of 40 per cent. upon the mortuary premiums paid by our members for the first five years. * * * Up to the fourth year gave us a profit within a fraction of 33⅓ per cent."

CHAPTER XII.

THE FOUSE PLAN AS OPERATED BY THE FIDELITY MUTUAL LIFE ASSOCIATION.—SPECIAL FEATURES.—FULL TEXT OF POLICY. —BY-LAWS.—TABLE F., GIVING MAXIMUM ASSESSMENTS.— MEMBERSHIP FEES.—ANNUAL DUES.—MEDICAL EXAMINATION FEE—ASSUMED POLICY OF $1,000, AGE 39.—TABLE G., SHOWING PROBABLE COST, ETC.—THE PROCESS OF LEVYING ASSESSMENTS EXPLAINED.

II. THE FOUSE PLAN.

This plan of insurance was originated in 1878, by L. G. Fouse, Esq., of Philadelphia, Pa., and is at present adopted by only one company, **The Fidelity Mutual Life Association of Philadelphia.**

Special Features: Expenses of management are limited by policy contract to $5.00 per annum, on each $1,000 of insurance, the first five years, and $2.50, annually, thereafter. Assessments are made only three times a year—January, May and September—and paid to local trustees, and by them to a general trustee, who pays all death claims. The assessments provide for a **Death Fund** and a **Contingent Surplus Fund**, each definitely stated in every assessment, and the two funds are kept separate by the GENERAL TRUSTEE. The By-laws fix a yearly maximum for every age beyond which assessments cannot be made. After five years, if desired, a paid-up policy will be issued, maturing at the end of life expectancy; or, at death, if prior, for such an amount as the **Contingent Surplus Fund** accredited to the original policy, will purchase on not to exceed a six per cent. basis. At the end of expectancy—reckoning from age of entry—the insured can withdraw, and, upon surrender of the original policy receive, *in cash*, the full amount of all the *mortuary* assessments he shall have paid during his membership. Policies are issued in amounts of from $1,000 to $10,000, on a single healthy life. Death claims have been paid in full—full face value of policy—from the beginning. The company was incorporated in 1878. Each member pays according to his probability of dying and living *at the time an assessment is made.*

FULL TEXT OF THE POLICY.

Know all men by these presents: THAT.......... of..........county of..........State of ....has by...... application, dated .... 18 , become a member of **The Fidelity Mutual Life Association**, and by virtue of the agreements and statements contained in said application, is entitled to the benefits of an insurance. Now therefore, this policy of insurance witnesseth: **That whereas** the said .... has agreed to pay, or cause to be paid annually, the sum of .... dollars, for the first five years, and thereafter .... dollars, on or before the .... day of.......... in every year during .... lifetime, together with .... proportion of Mortality and Contingent Assessments, as agreed and provided in .... application. **And whereas** the first payment of such annual dues, having first been received by the treasurer or an accredited agent of the association, the said **Fidelity Mutual Life Association** or its members by their respective agreements, do hereby insure the life of .... aforesaid, in the amount of... ....dollars, from the................day of .... 18 ; and the amount so insured shall become due and payable within sixty days from the date of the periodical Mortality Assessment, first ensuing the receipt of satisfactory proof of death of the said ...., and said amount shall be payable to and for the sole and separate use and benefit of ....

Provided always, that due notice and satisfactory proof of the death of the insured, and of the just claim of the assured, or any other person as executor, administrator, guardian or assign, be given to the association.

And provided especially, that this policy is issued, and it is accepted by the applicant and the assured, upon the express terms, conditions and specifications set forth in the By-laws of the **Association** and the application of the insured, and they together shall constitute a part of this contract in the same manner and to the same extent as if they were printed in the body of this policy, and in the event of a breach of warranty or a failure to pay either dues or assessments the day on which they shall become due, then, in either case this CERTIFICATE OF MEMBERSHIP and POLICY of insurance shall be *ipso facto* null and void, and of no effect whatever.

Provided further, That if the insured die by his own hand, whether sane or insane, in that event, the **association** shall only pay a sum of money equal to the dues and assessments, with interest, paid hereon in full settlement and payment of this **Certificate of Membership** and **Policy** of Insurance.

It is also agreed, That the yearly dues are due and payable at the **Home Office** of the **Association**, and that members shall promptly notify the Treasurer of the **Association**, in writing, of a change of residence or POST OFFICE ADDRESS.

This **Association** being incorporated under section 37 of the Act of Assembly approved May 1st, 1876, is not required by law to maintain the reserve, which Life Insurance Companies are, by Act of April 4th, 1873, entitled "An Act to establish an Insurance Department," and its policies are conditioned upon the amount thereof being realized by assessments made to meet them as provided in its By-laws. In witness whereof, etc., etc.

To every Policy, or Certificate of Membership, is attached the following

BY-LAWS:

ARTICLE I.

The object of this Association shall be to insure its members and to secure pecuniary benefits to the widows, orphans, families, or heirs of deceased members, by assessment upon surviving members as hereinafter provided.

ARTICLE II.

SECTION 1. The officers of this Association shall consist of a President, Vice-President, Secretary, Treasurer, Actuary, an Executive Committee of three, and not less than FIVE nor more than NINE Directors.

SEC. 2. The President, Vice-President, Secretary, Treasurer, and Actuary shall be elected annually by the Board of Directors at their first meeting after the annual election of Directors, and shall continue in office until their successors are duly elected and qualified. The Executive Committee chosen by the Directors must be of their own number including the President, and shall be elected annually at the first meeting of the Directors after the annual election.

SEC. 3. The Board of Directors created under Section 1, of this Article, shall be competent to exercise all the powers vested in it by law, and shall be elected annually by the members of the Association on the second Tuesday of January; the election shall be held at the Home Office of the Association. Members may vote in person, by proxy, or attorney, and when not voting in person the name of the member for whom the vote is cast must be endorsed on the ballot,—each member shall be entitled to one vote.

SEC. 4. The Executive Committee, which shall be a Committee of the Directors, shall supervise the business, fix the salaries or compensation of Clerks, Trustees, Advisory Boards, and Medical Examiners, and shall report to the Directors at their regular monthly meeting.

SEC. 5. Stated meetings of the Directors shall be held at the office of the Association on the first Monday of each month, and special meetings may at any time be called by the President, by giving the Directors notice in writing.

SEC. 6. The Association may have an Advisory Board of three members and one or more Trustees in every county where it has resident members. Such Advisory Boards and Trustees shall be elected annually on the third Tuesday of January by the members of the respective counties; and before such elections can be held, or when the members fail or neglect to hold elections, the Executive Committee may appoint such Boards and Trustees.

SEC. 7. Such Advisory Boards in the respective counties shall choose a President and Secretary from their number, and shall meet any time at the written request of the Secretary of same or the local Trustee or the President of the Association. The names of all the members in the respective counties shall be submitted to the Advisory Boards in such counties through their Secretaries at least once every four months, prior to each assessment period. The names of Physicians and Agents appointed by the Association within the jurisdiction of the respective Boards shall likewise be submitted to said Boards, and it shall be their duty to keep a surveillance over Trustees, Physicians, Agents, and members, and promptly report to the President at the Home Office any irregularity coming to their knowledge prejudicial to the interests of the Association. The said Advisory Boards shall also investigate all death losses occurring within their respective jurisdictions, and report the result of such investigations to the President of the Association.

SEC. 8. The Local Trustee of the County of Philadelphia, Pa., shall in addition to the duties named in Article X, Section 1, act in the capacity of General Trustee or Depository for all the other Trustees, on terms to be named by the Executive Committee.

ARTICLE III.

The President shall preside at all meetings, shall appoint all committees, shall be the general executive business manager of the Association, and perform such duties as usually pertain to this office. In case of his absence or disability the Vice-President shall perform the duties of the office.

ARTICLE IV.

The Treasurer shall keep the books of the Association, and keep therein an accurate account of all policies or memberships issued in the name of the Association, and of receipts and disbursements. He shall on the first of each month make a statement to the Board of Directors of the business done during the preceding month. He shall receive all moneys payable to the Association, and deposit in such bank or banks, and invest in such securities, as the Board of Directors may from time to time direct.

ARTICLE V.

Vacancies by death, resignation, or otherwise shall be filled by the Board of Directors.

ARTICLE VI.

SECTION 1. The Treasurer shall execute such bonds with approved security as the Board of Directors may from time to time require, in a sum not less than twenty-five thousand dollars.

SEC. 2. The Trustees of the respective counties shall execute such bonds as the President of the Association may from time to time require.

ARTICLE VII.

SECTION 1. Persons desiring to become members of the Association must make application according to the form provided for that purpose, and pay a membership fee, the first year only, of \$5 on \$1,000; \$8 on \$2,000; \$11 on \$3,000; \$14 on \$4,000; \$17 on \$5,000; and one dollar extra for each additional \$1,000 insurance; and \$5 annual dues, payable annually in advance, for the first five years including the first year, and thereafter \$2.50 annually on each \$1,000.

SEC. 2. Applicants must always be examined by Physicians regularly commissioned by the association, and pay the medical examiner's fee at the time the examination is made.

ARTICLE VIII.

SECTION 1. No person shall be eligible to a membership who is more than sixty years old, or whose life is endangered through chronic or hereditary diseases, or excessive drinking.

SEC. 2. No policy shall be issued to males for more than ten thousand dollars, and when more than fifty-five years old, not more than six thousand dollars; and to females not more than three thousand dollars.

ARTICLE IX.

SECTION 1. For death claims each member shall pay according to age and amount insured, his or her pro-rata share of the mortality assessments.

SEC. 2. The following table of rates per cent. on the insurance of each member at the respective ages and according to the years of insurance shall constitute the yearly liability or indemnity reserve of such member, from which the amount necessary to pay his portion of the death losses, which may be graded according to the mortality of his State, at each assessment period, shall be deduced. For members under 25 years, the rates shall be the same as those for members aged 25 years.

TABLE F.

AGE OF ENTRY.	25	26	27	28	29	30	31	32
Years of Insurance.	Prob. Of Life. 43 yrs.	Prob. Of Life. 42 yrs.	Prob. Of Life. 41 ys.	Prob. Of Life. 40 ys.	Prob. Of Life. 39 ys.	Prob. Of Life. 38½ ys.	Prob. Of Life. 37⅜ ys.	Prob. Of Life. 37 yrs.
1	1.388	1.428	1.472	1.519	1.571	1.597	1.648	1.681
2	1.435	1.478	1.518	1.57	1.625	1.654	1.706	1.739
3	1.48	1.524	1.57	1.619	1.677	1.706	1.760	1.795
4	1.522	1.568	1.616	1.666	1.726	1.754	1.808	1.846
5	1.572	1.62	1.668	1.72	1.78	1.812	1.866	1.905
6	1.606	1.655	1.708	1.759	1.82	1.851	1.906	1.948
7	1.647	1.697	1.748	1.804	1.868	1.9	1.957	1.997
8	1.692	1.743	1.797	1.851	1.918	1.949	2.011	2.053
9	1.735	1.788	1.842	1.899	1.967	2.	2.063	2.105
10	1.782	1.836	1.894	1.95	2.019	2.051	2.117	2.161
11	1.832	1.886	1.946	2.004	2.075	2.112	2.178	2.222
12	1.886	1.941	2.004	2.064	2.135	2.171	2.240	2.285
13	1.939	1.997	2.059	2.121	2.197	2.234	2.303	2.352
14	1.993	2.052	2.117	2.181	2.258	2.295	2.366	2.416
15	2.047	2.108	2.175	2.242	2.319	2.357	2.434	2.48
16	2.1	2.163	2.231	2.3	2.383	2.423	2.497	2.551
17	2.159	2.222	2.292	2.363	2.445	2.485	2.563	2.616
18	2.213	2.28	2.351	2.425	2.507	2.552	2.631	2.684
19	2.269	2.336	2.41	2.486	2.569	2.614	2.694	2.751
20	2.322	2.391	2.467	2.543	2.631	2.677	2.757	2.817
21	2.375	2.446	2.523	2.602	2.689	2.734	2.82	2.879
22	2.428	2.499	2.578	2.66	2.747	2.795	2.883	2.944
23	2.476	2.55	2.631	2.714	2.805	2.854	2.943	3.002
24	2.525	2.602	2.682	2.77	2.86	2.909	2.997	3.064
25	2.572	2.652	2.732	2.821	2.913	2.962	3.054	3.12
26	2.618	2.698	2.779	2.871	2.966	3.015	3.109	3.175
27	2.669	2.751	2.835	2.93	3.014	3.065	3.16	3.229
28	2.7	2.782	2.868	2.962	3.057	3.109	3.206	3.275
29	2.741	2.826	2.911	3.008	3.098	3.148	3.249	3.318
30	2.766	2.85	2.937	3.035	3.134	3.186	3.286	3.355
31	2.793	2.878	2.967	3.065	3.166	3.217	3.317	3.389
32	2.816	2.901	2.99	3.09	3.19	3.246	3.346	3.418
33	2.839	2.926	3.016	3.116	3.216	3.268	3.374	3.444
34	2.858	2.944	3 037	3.137	3.239	3.292	3.394	3.469
35	2.873	2.961	3.052	3.153	3.255	3.308	3.414	3.488
36	2.887	2.975	3.068	3.169	3.272	3.326	3.429	3.507
37	2.901	2.989	3.082	3.188	3.285	3.34	3.443	3.52
38	2.907	2.996	3.091	3.196	3.297	3.352	2.071	
39	2.916	3.005	3.103	3.208	3.307	1.68		
40	2.923	3.013	3.113	3.218				
41	2.928	3.019	3.12					
42	2.931	3.024						
43	2.939							

TABLE F.—(CONTINUED.)

33	34	35	36	37	38	39	40	41	42
Prob. Of Life. 36 ys.	Prob. Of Life 35 ys.	Prob. Of Life. 34 ys.	Prob. Of Life. 33⅜ ys.	Prob. Of Life. 32½ ys	Prob. Of Life 32 ys.	Prob. Of Life. 31 ys.	Prob. Of Life. 30 ys.	Prob. Of Life. 29 ys.	Prob. Of Life. 28⅓ ys.
1.743	1.809	1.88	1.926	1.997	2.037	2.125	2.219	2.323	2.394
1.802	1.871	1.945	1.991	2.066	2.109	2.198	2.297	2.404	2.477
1.86	1.932	2.006	2.055	2.129	2.174	2.266	2.367	2.479	2.554
1.913	1.987	2.064	2.111	2.194	2.237	2.332	2.438	2.55	2.632
1.975	2.051	2.132	2.183	2.263	2.308	2.408	2.514	2.632	2.714
2.018	2.095	2.177	2.234	2.311	2.361	2.461	2.572	2.692	2.774
2.07	2.149	2.233	2.286	2.371	2.421	2.526	2.637	2.76	2.846
2.127	2.208	2.294	2.349	2.434	2.486	2.594	2.709	2.834	2.920
2.181	2.264	2.353	2.409	2.497	2.549	2.658	2.778	2.906	2.997
2.24	2.324	2.415	2.474	2.566	2.618	2.729	2.852	2.986	3.077
2.301	2.389	2.482	2.543	2.634	2.69	2.806	2.932	3.067	3.163
2.368	2.459	2.555	2.614	2.712	2.768	2.888	3.019	3.157	3.254
2.436	2.529	2.628	2.691	2.791	2.849	2.969	3.103	3.248	3.349
2.505	2.6	2.701	2.766	2.866	2.927	3.053	3.189	3.336	3.44
2.572	2.67	2.776	2.84	2.946	3.006	3.134	3.276	3.427	3.534
2.642	2.743	2.849	2.92	3.023	3.089	3.223	3.366	3.522	3.629
2.713	2.815	2.925	3.	3.106	3.168	3.306	3.452	3.612	3.723
2.782	2.887	3.	3.071	3.186	3.252	3.392	3.544	3.705	3.82
2.852	2.96	3.075	3.149	3.263	3.332	3.475	3.63	3.799	3.914
2.919	3.029	3.147	3.223	3.346	3.409	3.556	3.717	3.89	4.009
2.985	3.099	3.219	3.294	3.417	3.487	3.638	3.8	3.979	4.1
3.05	3.165	3.288	3.366	3.491	3.564	3.717	3.884	4.064	4.189
3.113	3.23	3.355	3.434	3.563	3.635	3.794	3.964	4.148	4.274
3.176	3.294	3.423	3.503	3.634	3.709	3.869	4.043	4.23	4.357
3.234	3.355	3.484	3.569	3.697	3.776	3.94	4.117	4.307	4.44
3.292	3.416	3.548	3.631	3.766	3.844	4.011	4.191	4.383	4.517
3.347	3.471	3.606	3.691	3.826	3.909	4.078	4.26	4.458	4.594
3.395	3.522	3.659	3.746	3.883	3.965	4.137	4.321	4.521	4.657
3.439	3.566	3.706	3.791	3.934	4.016	4.191	4.379	4.581	1.652
3.478	3.608	3.749	3.837	3.980	4.064	4.243	4.431		
3.511	3.646	3.788	3.874	4.017	4.104	4.283			
3.542	3.674	3.816	3.906	4.051	4.137				
3.571	3.704	3.848	3.937	2.040					
3.595	3.729	3.874	1.586						
3.617	3.75								
3.636									

TABLE F.—(CONTINUED.)

AGE OF ENTRY.	43	44	45	46	47	48	49	50
Years of Insurance.	Prob. Of Life. 27½ ys.	Prob. Of Life. 27 ys.	Prob. Of Life. 26 ys.	Prob. Of Life. 25 ys.	Prob. Of Life. 24 ys.	Prob. Of Life. 23 3/5 ys.	Prob. Of Life. 22 3/5 ys.	Prob. Of Life. 22 ys.
1	2.494	2.556	2.687	2.831	2.987	3.091	3.232	3.348
2	2 583	2.643	2.781	2.928	3.109	3.194	3.349	3.466
3	2.66	2.726	2.866	3.02	3.187	3.291	3.448	3.573
4	2.737	2.804	2.949	3.107	3.278	3.391	3.549	3.675
5	3.826	2.897	3.045	3.209	3.385	3.500	3.663	3.795
6	2.888	2.962	3.113	3.279	3.46	3.577	3.749	3.877
7	2.963	3.036	3.193	3.363	3.552	3.672	3.837	3.977
8	3.043	3.118	3.279	3.455	3.645	3.769	3.949	4.084
9	3.12	3.197	3.362	3.542	3.736	3.866	4.046	4.189
10	3.206	3.284	3.453	3.638	3.839	3.969	4.154	4.303
11	3.291	3.375	3.55	3.738	3.945	4.083	4.272	4.422
12	3.388	3.474	3.652	3.848	4.06	4.197	4.394	4.552
13	3.486	3.571	3.755	3.956	4.175	4.314	4.520	4.682
14	3.583	3.67	3.861	4.064	4.289	4.434	4.643	4.81
15	3.677	3.771	3.966	4.177	4.406	4.557	4.769	4.939
16	3.78	3.874	4.073	4.292	4.53	4.683	4.900	5.077
17	3.88	3.976	4.178	4.405	4.646	4.803	5.027	5.21
18	3.977	4.078	4.288	4.519	4.768	4.932	5.157	5.344
19	4.077	4.179	4.397	4.63	4.885	5.052	5.286	5.476
20	4.174	4.278	4.499	4.74	5.202	5.171	5.412	5.606
21	4.269	4.377	4.602	4.846	5.115	5.289	5.532	5.735
22	4.363	4.471	4.703	4.955	5-228	5.403	5.649	5.86
23	4.451	4.562	4.798	5.054	5.333	5.514	3.463	
24	4.54	4.655	4.894	5.156	5.44	2.248		
25	4.623	4.738	4.982	5.248				
26	4.709	4.823	5.074					
27	4.783	4.905						
28	2.429							
29								
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TABLE F.—(Continued.)

51	52	53	54	55	56	57	58	59	60
Prob. Of Life. 21 ys.	Prob. Of Life. 20 ys.	Prob. Of Life. 19½ ys.	Prob. Of Life. 18¾ ys.	Prob. Of Life. 18 ys.	Prob. Of Life. 17¼ ys.	Prob. Of Life. 16½ ys.	Prob. Of Life. 16 ys.	Prob. Of Life. 15 ys.	Prob. Of Life. 14 ys.
3.557	3.788	3.911	4.111	4.331	4.566	4.826	5.015	5.428	5.901
3.679	3.918	4.049	4.254	4.481	4.723	4.994	5.189	5.617	6.105
3.793	4.038	4.171	4.389	4.618	4.871	5.149	5.35	5.79	6.293
3.905	4.156	4.294	4.511	4.754	5.014	5.297	5.506	5.959	6.477
4.031	4.293	4.431	4.663	4.907	5.174	5.469	5.682	6.149	6.685
4.119	4.385	4.529	4.763	5.016	5.292	5.588	5.81	6.285	6.833
4.224	4.498	4.649	4.886	5.145	5.426	5.734	5.958	6.448	7.007
4.34	4.622	4.771	5.017	5.283	5.571	5.891	6.12	6.621	7.198
4.45	4.74	4.897	5.149	5.419	5.714	6.040	6.256	6.792	7.382
4.57	4.868	5.026	5.283	5.564	5.871	6.206	6.446	6.974	7.582
4.698	5.003	5.166	5.428	5.719	6.031	6.374	6.624	7.168	7.792
4.833	5.148	5.317	5.588	5.885	6.209	6.560	6.816	7.375	8.019
4.97	5.293	5.472	5.749	6.053	6.386	6.746	7.01	7.587	8.247
5.11	5.442	5.617	5.906	6.221	6.563	6.932	7.206	7.797	8.479
5.249	5.59	5.774	6.066	6.389	6.737	7.123	7.406	8.01	
5.393	5.742	5.931	6.234	6.565	6.923	7.317	7.606		
5.534	5.893	6.086	6.397	6.737	7.106	3.754			
5.676	6.045	6.246	6.560	6.913	1.823				
5.819	6.196	6.391	5.046						
5.956	6.342	3.272							
6.094									

The yearly liability of each member, as indicated in the preceding table, shall during the probable life amount to 100 per cent., or the sum insured, and when a member shall survive the probable life he or she shall thereafter be liable yearly for the rate of the last year of insurunce given in column under the age of entry of such member.

SEC. 3. If the proceeds of any mortality assessment shall be insufficient to pay and satisfy the death losses, for which such assessment was made, the Treasurer of the Association shall make good such deficiency out of the contingent assessment fund of the Association, created under Section 9 of this Article.

SEC. 4. Three mortality assessments shall be made annually, on the first day of January, May, and September of each year, to pay the death losses of every preceding four months. Fifteen per cent. or so much thereof as shall be nccessary may be added to death claims to defray the expenses of collection, and adjusting the losses, which addition shall form a part of the expense fund of the Association.

SEC. 5. A printed or written notice directed to the address of a member as it appeared at the time on the books of the Association, and deposited in the post-office in Philadelphia, shall be deemed a legal and sufficient notice of mortality assessments and annual dues. A certificate made by the Treasurer or book-keeper showing such facts, shall be taken and accepted as conclusive evidence of the mailing of such notice.

SEC. 6. In case of change of residence or post-office address of a member, or his or her legal representatives, notice thereof in writing shall at once be given to the Treasurer of the Association.

SEC. 7. Members must pay mortality assessments within thirty days from date of notice thereof and annual dues at the date or time specified in their policies, and in the event of their failure to pay either at maturity, their membership and policy of insurance shall be deemed forfeited and *ipso facto* null and void. The Treasurer of the Association or Trustee may enforce payment of assessments that have accrued and are due at the time of the forfeiture of the policy or membership. The mortality assessments collected from delinquent members shall be paid to the Treasurer of the Association and by him deposited with the contingent assessment fund. Delinquent members may be reinstated if approved by the Medical Director and President, by giving reasonable assurances that they are in good health. A notice of either dues or assessments sent to a delinquent member shall not be deemed a recognition of his policy, which shall be inoperative until reinstated as aforesaid.

SEC. 8. Mortality assessment notices sent to members shall contain an itemized statement of the death losses for which such assessment is made, showing the name, age, address, amount of insurance and cause of death of each deceased member.

SEC. 9. The members may be assessed in addition to the mortality assessment such a sum as will at no greater rate than six per cent. compound interest, during life expectancy, according to the American expectation table, amount to such mortality assessment, for the purpose of creating a contingent fund to provide for and make good delinquencies and deficiencies, reduce the insurance liability, and to further provide for the payment of commuted policies. When a member is entitled to and does not desire a commuted policy, and the original policy becomes a claim by death, the proceeds of the contingent fund accredited to such original policy may be applied to its payment, and the mortality assessment correspondingly reduced. The moneys accruing from the contingent assessment fund shall be invested by and be subject to the control and direction of the Board of Directors.

SEC. 10. Any member who shall surrender his or her policy after it shall have been in force for a period exceeding five years, and while the policy is still in force and clear of indebtedness for accrued losses, such member may take a commuted policy payable at the end of his or her expectation, computed from the date of his original policy, according to the standard tables of life expectation, or at death if prior, for the net amount of contingent fund credited to him or her at date of surrender improved at four per cent. Provided always, that all death losses that have occurred during the existence of a policy, whether original or commuted, shall first be paid.

ARTICLE X.

SECTION 1. Mortality assessments are payable to the Trustees of the respective counties, according to the notice thereof, who shall make a diligent effort to collect the same within the time specified in Article IX, Section 7.

SEC. 2. Annual dues are payable to the Treasurer or an accredited agent of the Association. Remittances must be made by check, draft, or postal order.

ARTICLE XI.

All Trustees must on or before the second Tuesday of February, June, and October of each year pay over to the General Trustee at Philadelphia, Pa., the moneys collected by assessment in their respective counties, and the Treasurer shall on or before the maturity of policies of deceased members, draw checks or orders, countersigned by the Secretary, on said General Trustee in payment of the approved death losses.

The General Trustee shall immediately upon presentation accept and pay such checks or orders, provided the same are drawn to the order of and endorsed by the beneficiary or proper legal representative of the deceased member, whose policy of insurance shall accompany any such check or order. Otherwise the said Trustee shall not accept and pay any checks or orders out of the funds accruing from mortality assessments, except as provided in Article XII.

ARTICLE XII.

SECTION 1. The General Trustee shall pay upon the presentation of the check of the Treasurer for the use of the expense fund, the per cent. added to death losses under Section 4, Article IX, less the amount paid to or deducted by Trustees for collecting the assessments.

SEC. 2. The General Trustee shall pay to the Treasurer of the Association, any balance remaining on deposit to the credit of the mortuary and contingent funds of the Association for the purpose of investment under the direction of the Board of Directors, provided that the Executive Committee or any two members thereof shall first certify under oath that all approved death losses for which assessments have been made are paid, and that the Association is not legally indebted to the beneficiary or legal representative of any deceased member.

ARTICLE XIII.

Upon the death of any member of the Association, due notice thereof shall be given in writing to the President, whereupon he shall either furnish to the person thus notifying him official blanks, indicating the necessary statements and proof of loss to be made, or shall delegate a person to personally superintend the making of such proof of loss; and it shall be the duty of the beneficiary or claimant to answer and secure answers by others, under oath, to all questions asked in writing by the President, either in said blanks or supplementary blanks, relating to the health, habits of life, age, sickness, treatment, remote and proximate cause of death of the insured, and to the interest and relationship of the beneficiary or claimant. Such proof of loss shall be presented to the President of the Association at least 15 days before the assessment period next ensuing. In case any suit or action upon a policy shall be brought against the Association after the expiration of one year next after the death of the insured, the lapse of time shall be taken and deemed conclusive evidence against the vitality of the claim thereby so attempted to be enforced, any statute of limitation to the contrary notwithstanding.

ARTICLE XIV.

SECTION 1. Payments on approved death claims shall be made within sixty days from the date of the periodical assessment first ensuing the receipt of satisfactory proof of loss of the death of a member.

SEC. 2. Whenever it shall appear that any important facts have been omitted from, or mis-stated in the application, agreement or medical examination, it shall be the duty of the Executive Committee to cause an investigation to be made as to the truth or falsity of the statements upon which the policy was issued, and if in their opinion an attempt was or has been made to defraud the Association, they shall tender the payment to the applicant, if living, or to the beneficiary, if the applicant be dead, a sum of money equal to the mortality assessments, with interest, paid on or for such policy. The acceptance of such sum of money by the applicant or beneficiary shall cancel and annul the policy of insurance and release the Association from any liability on the same.

ARTICLE XV.

If a member die in consequence of a duel, or by the hands of justice, or shall practice any pernicious habit that obviously tends to shorten life, whether it be the remote or proximate cause of death, the Association in such cases shall only cause the total amount of mortality assessments paid by the member during life to be paid to the beneficiary or claimant, provided his or her membership is valid at the time of death.

ARTICLE XVI.

Any member who shall die upon the seas, or go beyond the settled limits of the United States, or the Dominion of Canada, without the written consent of the President or Treasurer of the Association, or who shall visit those parts of the United States which lie south of the 32d degree of north latitude, between the first of July and the first of November, or shall reside during said time south of 36° 30′ north latitude, at any place within thirty miles of the Mississippi or Red Rivers, or shall enter into any military or naval service whatever (the militia not in actual service excepted), or shall engage in underground mining, or shall be personally employed as an engineer or fireman in charge of a steam engine, or as conductor or brakeman upon a railroad, or as an officer, hand or servant of any steam vessel, or in the manufacture or transportation of gunpowder, or any other highly explosive article or compound—if any such member shall die while in the localities above mentioned, or while engaged in the occupations, employment, etc., above set forth, and from the effects of the same, then the assured, or person for whose benefit the insurance was granted, shall only receive from the association and its members TWO-THIRDS of the original amount of insurance.

ARTICLE XVII.

Any assignment of a membership and policy of insurance shall be void unless it inure to the beneficiaries as specified in Article I, and is assented to in writing by the President or Treasurer of the Association.

ARTICLE XVIII.

The application of each member shall form a part of the *Certificate of Membership* and *Policy of Insurance;* and if any statement made herein or in the Medical Examiner's certificate accompanying it, by the member or applicant, shall be found untrue in any respect, then the policy of insurance shall be null and void.

ARTICLE XIX.

When a State has a membership of 3,000 or more, the Executive Committee may designate a Trustee, who shall act as General Trustee for such State. When a State shall impose any tax or license, the Association may assess the members of such State for the amount thereof,

ARTICLE XX.

The By-Laws may be amended, changed, altered, repealed or suspended (as provided for in the charter), with the consent of two-thirds of all the Directors.

Expense of management in this Association is limited, by policy contract, to the following:

$1,000 Insurance	Membership fee	$ 5.00	
	Annual dues 1st yr......	5.00	$10.00

$2,000 Insurance	Membership fee	8.00	
	Annual dues 1st yr......	10.00=	18.00
$3,000 Insurance	Membership fee	11.00	
	Annual dues 1st yr......	15.00=	26.00
$4,000 Insurance	Membership fee	14.00	
	Annual dues 1st yr......	20.00=	34.00
$5,000 Insurance	Membership fee	17.00	
	Annual dues 1st yr......	25.00=	42.00
$10,000 Insurance	Membership fee	22.00	
	Annual dues 1st yr......	50.00=	72.00

EXAMINATION FEE EXTRA.

The membership fee is paid but once. The annual dues remain at $5.00 per $1,000 Insurance during the first five years, and thereafter $2.50 per $1,000 Insurance.

Let it be assumed that a person at age 39 applies to this Association for $1,000 of insurance. After filling out his application and passing a satisfactory medical examination, he will be required to pay a membership fee of $5.00; annual dues, $5.00; and medical examination fee, say $3.00; altogether, $13.00. Thus far, he has paid nothing *for death losses*. During the first and every succeeding year of his life expectancy, if he live, he will be called upon, at stated times, to pay his equitable portion to the DEATH FUND and CONTINGENT FUND. Assuming that the certificate is dated January 5th, he will not be assessed until the first day of May following. Every assessment notice contains two items; one for paying death losses; the other to augment the contingent fund. The former may be increased, if necessary, not to exceed fifteen per cent., to defray expense of collection and adjusting losses, which increase, if made, shall form a part of the expense fund of the Association; the latter is such a sum as will at no greater rate than six per cent. compound interest, during life expectancy, according to the American Expectation Table, amount to the mortality element. This contingent fund, therefore, is so adjusted that when every persistent member shall have lived out his expectancy, it will just exactly equal the amount he had paid for death losses from date of certificate! We have assumed that the insured is 39 years old, when he enters the Association as a member, and that his policy is for $1,000 of insurance. By referring to Table F, we see that all he can be assessed for, during the first policy year, for death losses and contingent fund, on this amount of insurance, is $21.25.

The second year, when he will be 40 years old, he can be assessed $21.98; the third year, when 41, his maximum of assessments, during the year, will be $22.66, and so on.

We have made a very careful estimate of this policy from age of entry, 39, to the expiration of probable life, age 70, with the following results:

TABLE G.

SHOWING PROBABLE YEARLY COST OF $1,000 INSURANCE TO A PERSON ENTERING AT AGE 39, ON FOUSE'S PLAN, OPERATED BY THE FIDELITY MUTUAL LIFE ASSOCIATION, OF PHILADELPHIA, PA.

Years of Insurance.	Yearly Expense Dues.	Cost of Mortality Each Year.	Contingent Fund Deposit Each Year.	Contingent Fund End Each year with Interest and Profit from Decrement.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
1	$5.00	$ 9.80	$2.94	$ 3.26
2	5.00	10.14	3.04	7.30
3	5.00	10.45	3.13	11.47
4	5.00	10.76	3.22	16.36
5	5.00	11.10	3.33	21.79
6	2.50	11.35	3.40	21.66
7	2.50	11.64	3.49	34.38
8	2.50	11.96	3.58	41.43
9	2.50	12.26	3.67	48.72
10	2.50	12.59	3.77	59.32
11	2.50	12 94	3.88	65.96
12	2.50	13.32	3.99	75.18
13	2.50	13.70	4.11	85.26
14	2.50	14 07	4.22	96.81
15	2.50	14.46	4.33	108.51
16	2.50	14.85	4.45	121.26
17	2.50	15.24	4.57	135.27
18	2.50	15.64	4.69	149.68
19	2.50	16.02	4.80	166.48
20	2.50	16.40	4.92	185.27
21	2.50	16.77	5.03	205.85
22	2.50	17.14	5.14	227.94
23	2.50	17.49	5.34	252.46
24	2.50	17.84	5.35	278.23
25	2.50	18.16	5.44	307.72
26	2.50	18.49	5.54	343.04
27	2.50	18.79	5.63	379.86
28	2.50	19.06	5.71	421.65
29	2.50	19.31	5.79	469.32
30	2.50	19.54	5.86	523.65
31	2.50	19.73	5.91	580.10
	$90.00	$461.01	$138.37	

Note I.—It will be seen that the payments for expenses amount to $90.00 ; for mortality, $461.01, it being 46 and one-tenth per cent. of the yearly maximum liability given in the By-Laws; and for contingent fund $138.37,—total, $689.38.

Note 2.—Column (2) represents the full mortality cost, in a variable membership, according to the American Experience Table of Mortality, without using any of the contingent fund. Therefore, all the contingent fund deposits of members who either die or lapse, are placed to the credit of the persisting members. This gives the persisting member, at the end of probable life, or 31 years, at age 70, a credit of say $580.10, more or less. Such member is then given the options (1), of taking about $500, cash, for the surrender of his policy; or, (2), he may surrender his policy and take a paid-up for what the $580.10 will purchase, at age 70, which will be about $1,000, with the exception of the expense dues, $2.50 per year; or, (3), he may continue the original policy with a uniform annual maximum assessment of $42.83, using his contingent fund in payment of the same. Hence, the member who entered at age 39, can, when he is 70 years old, get $500, cash, for his $1,000 policy, which is within $189.38 of what he paid during the 31 years ; or, he can remain insured for about $1,000, during life, at a cost of only $2.50 a year ! !

The question naturally arises, with reference to the FOUSE PLAN, how are the assessments made out? How does the Association ascertain the equitable amounts that each policy-holder should pay into the *Death Fund* and the *Reserve Fund?* We have seen that assessments are made by the Association, at fixed dates, on the first day of January, May and September of every year. Every assessment is for the purpose of raising money from the living members, to be used in payment of death losses that have occurred since the *last* assessment—four months—and to increase the contingent fund of every living member.

Suppose that on the first day of January, 1886, the Association found, in making up its assessment sheets, that it had paid just $15,500 in death losses since the last assessment, (the Association does not *wait* for the *proceeds* of an assessment before paying death losses,) and, that to replace this money already paid, it had **four thousand members** to assess, who were all in their **fifth** year of membership. Suppose, also, that these members were insured for $1,000, each, and that one thousand of them were 25 years old ; one thousand 35 years old ; one thousand 45 years old, and one thousand 55 years old, when they entered.

By referring to Table F, we find under age 25, at the right hand of (5) in the year column, that a policy holder, at age 25, insured for $1,000 in the FIDELITY MUTUAL LIFE ASSOCIATION, cannot be called on, during the entire **fifth** policy year, for mortuary and contingent fund purposes, for *more* than $15.72. This is the maximum liability during that year for these purposes—for the *whole year*, let it be borne in mind. In this assumed assessment there were *one thousand* such members, and, consequently, the maximum liability of the *thousand* was a thousand times that of the *one*. The maximum liability of the *one* we have shown to be $15.72, for the whole year, and that of the thousand is one thousand times $15.72, or $15,720, for the whole year, and, for *four months*, or one-third of a year, it is one-third of $15,720, or **$5,240**.

By again referring to Table F, we find, at the right hand of (5), in the year column, under age 35, the maximum liability of a member insured for $1,000, during *his* fifth policy year. It is $21.32. The maximum liability of one thousand such policy-holders is one thousand times $21.32, or $21,320; and, for one-third of the year, it is one-third of $21,320, or **$7,107.**

By the same table, in a similar manner, under age 45, at the right hand of (5) in the year column, we find $36.45, which is the maximum liability of a member, during his fifth policy year, for each $1,000 of insurance. The maximum liability of one thousand such policy-holders is one thousand times $30.45, or $30,450; and, for one-third of a year it is one-third of $30,450, or **$10,150.**

In the same Table, under age 55, at the right hand of (5) in the year column, we find $49.07. This is the maximum liability of a member, at age 55, during his fifth policy year, on every $1,000 of insurance. The maximum liability of one thousand such policy-holders is one thousand times $49.07, or $49,070; and, for one-third of the year it is one-third of $49,070, or **$16,357.**

Thus we have *pledged* from the 4,000 policy-holders, in payment of the death claims during the four months, amounting to $15,500, and the required deposits to the contingent fund, the amount of which is shown further on, both of which sums were advanced by the association, as follows:

From the one thousand 25-year old policy-holders..	$ 5,240
From the one thousand 35-year old policy-holders..	7,107
From the one thousand 45-year old policy-holders ..	10,150
From the one thousand 55-year old policy-holders..	16,357
Total..............	$38,854

Here are $38,854 pledged to pay $15,500 in death losses, during the four months, and also the moneys deposited to the credit of the contingent fund during the same time. What per cent. of $38,854 *pledged* is required to pay the $15,500 of death losses? By dividing $15,500 by $38,854, we obtain the answer to this question. It is a trifle *less* than **40 per cent.**, call it **40 per cent., even!** That is to say, forty per cent. of the total maximum liability of the 4,000 policy-holders—($38,854)—will pay the entire death-claims during the four months named, and, therefore, 40 per cent. of each individual policy-holder's maximum liability will pay his equitable proportion of the total amount of said death claims.

The individual maximum liability, at age 25, on $1,000 insurance, during the fifth policy year, is $15.72, and for one-third of the year it is $5.24, forty per cent. of which is **$2.10**. This is the mortuary assessment on each of the one thousand 25-year old policy-holders.

The individual maximum liability, at age 35, on $1,000 insurance, during the fifth policy year, is $21.32, and for one-third of the year it is $7.11, forty per cent. of which is **$2.84**. This is the mortuary assessment on each of the one thousand 35-year old policy-holders.

The individual maximum liability, at age 45, on $1,000 insurance, during the fifth policy-year, is $30.45, and for one-third of the year it is $10.15, forty per cent. of which is **$4.06**. This is the mortuary assessment on each of the one thousand 45-year old policy-holders.

The individual maximum liability, at age 55, on $1,000 insurance, during the fifth policy-year, is $49.07, and for one-third of the year it is $16.36, forty per cent. of which is **$6.54**. This is the mortuary assessment on each of the one thousand 55-year old policy-holders.

We have spoken of 25-year old policy-holders; 35-year old policy-holders; 45-year old policy-holders; and 55-year old policy-holders—one thousand of each constituting our *assumed* membership when the assessment was supposed to be levied. These are assumed to be the ages when they *entered* the company—"age at entry," as it is called. By referring to Table F. again, it will be seen that, at age 25, the probability of life is 43 years; at age 35, it is 34 years; at age 45, it is 26 years, and at age 55, it is 18 years.

The probability of life at age of entry, and the mortality assessment, form the basis in the FOUSE PLAN, for calculating the amount of **Contingent Fund** to be paid whenever a mortuary assessment is made. We have explained how the *mortuary* assessment is determined, and we will now show how the *contingent fund* element is calculated.

We have shown that each 25-year old policy-holder, in our example for illustration, pays, as his mortuary assessment, $2.10. His probability of life, at entry, was 43 years, but his assessment being in the *fifth* year of membership, he has already *lived* four years of the 43, leaving only 39 years to live. The indemnity fund must be a sum which, if compounded annually, say, at *six per cent.*, will amount to the Mortality Assessment—$2.10—in 39 years. In other words, the Contingent Fund Assessment is the present value of $2.10, due at the end of 39 years, interest being six per cent. By referring to Table No. 10, in the 6 per cent. column, at the left hand of 39, we find $.1031. This is the present value of $1 due at the end of 39 years, etc. By multiplying it into $2.10, we have the present value of $2.10 due at the end of 39 years, which is $0.2165; or *22 cents* to the nearest.

Therefore, for each of the 25-year old policy-holders, in our assumed example, the assessment is as follows:

(1) Mortuary assessment........................	$2.10
(2) Contingent Fund assessment...........	.22
Total........................	$2.32

By a similar process we may ascertain the Contingend Fund for the other ages, and then the total as above.

In estimating the above contingent fund assessment we used the maximum rate of interest allowed by the By-Laws. In practice, especially for the younger ages, the association uses a lower rate, thus making the contingent fund assessment greater. An actual policy of $5,000 issued January 1st, 1879, at age 40, costing for mortality in seven years $226.55, and for contingent fund $52.80, had to its credit January 1st, 1886, exactly $83 67; the interest and profit from decreement having increased the contingent fund $30.87.

Fouse's plan combines the advantages of limiting the yearly liabilities of the policy-holders; limiting the expense of conducting the business; and furnishing insurance at its actual cost equitably distributed for all ages and policy years. The resourses and protection guaranteed by this plan seem to be abundant, as is forcibly illustrated in the history and present prosperous condition of the FIDELITY MUTUAL LIFE ASSOCIATION, of Philadelphia, the yearly liability of whose members—already secured by a cash deposit or contingent fund of nearly $60,000, and constantly increasing—is fully double the mortality indicated by the American Table. When a member fails to pay a mortuary call, he releases the association from further risk or liability on his own life amounting to the face value of his certificate, and forfeits to it his interest in the contingent fund. The plan of Mr. Fouse is original and is based on sound mathematical principles.

The same good judgment, displayed in the origination and formulation of this plan of insurance, seems to be everywhere prevalent in the *management* of the association, of which Mr. Fouse, author of the plan, is President. The association has adhered strictly to conservative methods; has done a safe business; has had a wholesome growth, and it is undoubtedly a strong and representative company.

CHAPTER XIII.

THE SAFETY FUND PLAN OF ASSESSMENT INSURANCE, OPERATED BY THE HARTFORD LIFE AND ANNUITY INSURANCE COMPANY.—ADMISSION FEES.—ANNUAL DUES.—MORTUARY PAYMENTS.—HOW THE SAFETY FUND IS ACCUMULATED.—HOW IT MUST BE INVESTED.—HOW IT MUST BE HANDLED.—WHEN IT CAN BE DISTRIBUTED.—INTEREST DIVIDENDS FROM IT.—WHO ARE ENTITLED TO PARTICIPATE.—WHY THE COMPANY CAN PAY FACE VALUES OF ALL CERTIFICATES WITHOUT BURDENSOME ASSESSMENTS.—ACTUAL COST TO MEMBERS FIRST SIX YEARS.—FULL TEXT OF CERTIFICATE.—TRUSTEE'S CONTRACT.—TABLE OF GRADUATED ASSESSMENT RATIOS.

III. THE SAFETY FUND PLAN.

This plan of assessment insurance is operated, *only*, by the **Hartford Life and Annuity Insurance Company**, of HARTFORD, Conn.

With reference to this company, its authority to do business in the old State of Connecticut, and its ability to meet all of its obligations, we cite the following:

STATE OF CONNECTICUT, INSURANCE DEPARTMENT,
HARTFORD, August 12, 1885.

I, Ephraim Williams, Insurance Commissioner of the State of Connecticut, hereby certify that I have just examined the affairs of the Hartford Life and Annuity Insurance Company, located at Hartford, and that it is duly organized under the laws of the State of Connecticut, and has fully complied with the laws relating to Life Insurance Companies, and that it is fully able to meet all of its obligations, and is authorized to issue policies and transact business as a Life Insurance Company.

In witness whereof, I have hereunto subscribed my name and affixed my official seal, at the city of Hartford, the day and year first above written.

Ephraim Williams, INS. COM'R.

Also the following:

INSURANCE DEPARTMENT, COMMONWEALTH BLD'NG,
BOSTON, August 18, 1885.

This will certify, to whom it may concern. that the Hartford

Life and Annuity Insurance Company, a corporation under the laws of the State of Connecticut, at Hartford, in said State, is duly admitted and fully authorized under the laws of the Commonwealth of Massachusetts, to transact the business of life insurance upon the assessment plan in said commonwealth.

Witness my hand and seal of office, at Boston, this eighteenth day of August, 1885.

JOHN K. TARBOX,
Insurance Commissioner.

And the following:

INSURANCE DEPARTMENT, STATE OF NEW YORK,
ALBANY, October 19, 1885.

Whereas, satisfactory evidence has been exhibited to me, and filed in my office, showing that the Hartford Life and Annuity Insurance Company of Hartford, Connecticut, has complied with all the provisions of the Act entitled "An Act to provide for the incorporation and regulation of Co-operative or Assessment Life and Casualty Insurance Associations and Societies," passed April 12, 1883.

Now, therefore, I, John A. McCall, Jr., Superintendent of the Insurance Department of the State of New York, do hereby certify that the said Hartford Life and Annuity Insurance Company of Hartford, Connecticut, is duly authorized to commence business and issue certificates as a Co-operative or Assessment Life and Casualty Insurance Association or Corporation in the State of New York, according to the statutes in such case made and provided, on filing a certified copy of this certificate in the office of the Clerk of the county where the principal office of said association is located.

In witness whereof, I have hereunto subscribed my name and caused my official seal to be affixed, in duplicate, at the City of Albany, the day and year first above written.

JOHN A. MCCALL, JR.,
Superintendent.

State of New York,
City and County of New York. } *ss.*

I, PATRICK KEENAN, Clerk of the City and County of New York, and also Clerk of the Supreme Court for the said city and county, being a Court of Record, do hereby certify that the certified copy, certificate of authority, of the Hartford Life and Annuity Insurance Company, of Hartford, Connecticut, was, on the 21st of October, 1885, duly filed in this office.

In testimony whereof, I have hereunto set my hand and affixed the seal of the said court and county, the 23rd day of October, 1885.

PATRICK KEENAN,
Clerk.

The **Hartford Life and Annuity Insurance Company** was incorporated May, 1866, and commenced business April, 1867. It has a paid-up cash capital of $250,000. Its SAFETY FUND accumulations—of which more hereafter—now amount to over $300,000. Over $550,000 are therefore pledged for the honest administration of the SAFETY FUND SYSTEM, under which, since January 1, 1880, all the company's life business has been transacted.

The Safety Fund System. Every person applying for insurance under this system must pay an admission fee, as follows:

Admission Fee.

On $1,000 OF INSURANCE	$ 8.00
2,000 " "	12.00
3,000 " "	15.00
4,000 " "	18.00
5,000 " "	20.00
10,000 " "	40.00

And a medical examination fee of probably $3.00.

These fees are paid, regardless of age, *only once*. The Medical Examination fee is paid to the physician, and the admission fee to the agent or solicitor. All *future* payments must be made to the COMPANY. These consist of the following:

(1.)—**Annual Dues**. These are for expenses, and are limited to $3.00 for each $1,000 of insurance, and may be paid in installments commencing on the first day of the month after date of certificate, full explanation of which is sent by the company to the insured.

(2.) **Mortuary Payments**.—These are the contributions of every policy-holder to the payment of death losses. They are due and payable on the first days of March, June, September and December of every year. The amount that a policy-holder is required to pay on each death loss of $1,000 depends upon three things, and these are (1), the policy-holder's age *when the assessment is made;* (2), the amount of his policy; (3), the total amount of insurance, or "*indemnity,*" as it is called in the contract, *in force* with the company.

To illustrate:- Suppose a mortuary assessment is levied on the first day of March;—that Mr. B.——, a policy-holder, has $10,000 insurance,—and that he is 40 years old; no matter what his age *was* when he insured. Suppose, also, that the total amount of insurance, in force, on the company's books, is one million of dollars. By referring to "Table J.," further on, it will be seen that Mr. B—— is required to pay on a policy of $1,000, under our assumption, $1.12 for every one thousand dollars of death losses, and, therefore, on a policy of $10,000, it is ten times $1.12, or $11.20. If he were 50 years old the assessment would be $1.47 for each thousand dollars of death losses ; at age 60, it would be $2.68; and at other ages, more or less, according to the age. These figures are made on the basis that the company has only one million of insurance *in force;* and such an assessment would pay the *full face value of certificates.* But the company has fifty millions of insurance in force; therefore, the assessments are only *one-fiftieth* of the amounts named for each $1,000 of death losses. At age 40, on $10,000 of insurance, it is only one-fiftieth of $11.20, or a trifle more than twenty-two cents.

(3). **Safety Fund Deposit.**—This fund is composed of a deposit by each member of $10.00, once, only, on each $1,000 of insurance. This can be made all at once, or by installments, quarterly, for instance, or by adding thirty-three and one third per cent. to the Mortuary Assessments, until paid in full. This Safety Fund is deposited with the SECURITY COMPANY, of HARTFORD, CONN., as TRUSTEE, and, as may be seen by the contract of the HARTFORD LIFE AND ANNUITY INSURANCE COMPANY with the SECURITY COMPANY, every safeguard that human ingenuity and sagacity could invent seems to have been thrown around this fund.

It is of paramount importance, if our readers would understand this peculiar and exceptional plan of Assessment Insurance, to comprehend the nature of the Safety Fund, and the service it is expected to perform. At present it amounts to over $300,000. This has accumulated, as has already been said, from the payment, in full or part, of $10.00 for each $1,000 of insurance, by every person to whom a certificate of membership has thus far been issued. The fund will be further augmented by like amounts to be paid by future new members, until it shall have reached the sum of **One million of dollars**. This is the limit.

"*As often as the sum composing such fund shall be in amount sufficient to purchase $1,000, par value, of United States Bonds, such trustee shall make investments of such funds therein and register the same in its name as trustee of the Safety Fund of the said Insurance Company,*" etc.

This is the identical language of the company's policy contract with each of its policy-holders; and, also, of the Trust Company's contract, with reference to this fund; so that, when the full limit of this fund shall have reached ONE MILLION OF DOLLARS, it will all be invested—as its present accumulations are—in United States Bonds, *registered* in the name of the SECURITY COMPANY, of Hartford, Conn., *as Trustee of the Fund.* For the still further protection of this fund, it is provided in the Trustee's contract, as follows:

"*And it is further understood and agreed that if said party of the second part shall*"—*meaning the trustee*—"*for any cause, fail to perform its duties as such Trustee, as hereinbefore specified, or if, by reason of financial embarrassment of the party of the second* *part, or other cause, it shall be deemed expedient to remove said trust from its hands, then a new trustee may be appointed, by the mutual nomination of said Insurance Company, and the then Insurance Commissioner of the State of Connecticut, to succeed to said trust, with all the duties and obligations herein imposed upon said original Trustee, and said party of the second part shall surrender said Fund to such successor."*

Only one emergency can arise in which any portion of this Safety Fund can be lawfully used for any purpose whatever. The *net interest*, however, received therefrom *must* be semi-annually divided, *pro rata*, among all the holders of certificates in force, who shall have contributed five years prior to the date of any such division their full proportion of said Fund; this interest dividend to be used toward the payment of their future dues and assessments. After the Fund proper shall amount to ONE MILLION OF DOLLARS, all subsequent receipts therefor must be divided in like manner as the interest.

The emergency spoken of above is this: If, after this Safety Fund shall have amounted to THREE HUNDRED THOUSAND DOLLARS, the HARTFORD LIFE AND ANNUITY COMPANY shall fail by reason of insufficient membership; or, shall *neglect*, if justly and legally due, to pay the maximum indemnity provided for by the terms of any certificate issued in said Safety Fund department—this means the full face value of the policy—and such policy or certificate shall be presented for payment to the Trustee by the legal holder thereof accompanied by satisfactory evidence, fully delineated in every policy, of the company's *failure* to pay, after demand upon it within the time stipulated in the policy contract for limitation of action, **then** it shall be the duty of said Trustee to *at once* convert said Safety Fund into money and divide the same—"less the reasonable charges and expenses for the management and control of said Fund"—among all the holders of certificates then in force in said department, or their legal representatives, in the proportion which the amount of each of their certificates shall bear to the amount of the whole number of such certificates in force.

Thus we have seen that the SAFETY FUND is made up of moneys received from policy-holders, in excess of the cost of insurance and expenses, amounting to not more than $10.00 for each $1,000 of insurance issued to them; that these moneys are paid to the HARTFORD LIFE AND ANNUITY COMPANY, and by it to the Trustee, and that the Trustee invests them in registered United States bonds. We have also seen that the interest earnings of this SAFETY FUND must be divided, semi-annually, in an equitable manner, among members whose certificates have been in force five or more years after the *full* payment of their Safety Fund fees, and that no portion of the SAFETY FUND, itself, can ever be used, except in the event that the company should refuse, from inability or otherwise, to pay the *full* face value of a certificate that had become a legal claim against it, after having been duly presented and payment demanded; and that in such an emergency the Trustee of the SAFETY FUND may then be forced to a division of the Fund among all the policy-holders whose certificates shall then be in force. By an examination of the company's certificate, and the Trustee's contract, full texts of which are given herein, it will be seen that they contain all the above provisions. They are "*nominated in the bond.*"

The company has very kindly furnished us with the following

TABLE I.

SHOWING THE COST FOR ASSESSMENTS AND DUES ON EACH $1,000 OF INSURANCE IN FORCE, JANUARY 1, 1880, AT THE AGES GIVEN, FOR THE SIX YEARS ENDING DECEMBER 31, 1885.

Age.	Assessments.	Dues.	Total cost six years.	Average annual cost.
25	$30.42	$18.00	$48.42	$ 8.07
30	34.73	18.00	52.73	8.79
35	40.56	18.00	58.56	9.76
40	45.81	18.00	63.81	10.63
45	51.33	18.00	69.33	11.55
50	64.01	18.00	82.01	13.66
55	85.31	18.00	103.31	17.22

As the payments for medical examination, membership fee, and Safety Fund Deposit are fixed and uniform, at all ages, cost for any amount including all payments may be determined by this table for the ages given.

On the first day of January, 1886, the company made its first semi-annual interest dividend to all members who were entitled to it. This dividend amounts to $4.30 on each $1,000 of certificate, and is to be used toward the payment of future assessments. On the first day of July next, and every six months thereafter, an interest dividend will be declared to these same members and to all others whose certificates shall have been in force five or more years since the *completed* payment of their safety fund fees. Such is the present status of the Safety Fund system, and it indicates that these dividends will certainly constitute a very valuable aid in payment of future dues and assessments. With the dividend period *now* reached it appears to be but a question of time, probably not longer than five years at the company's rate of progress, for the Safety Fund to reach its full limit of one million dollars, when, not only the interest will be distributed semi-annually, but all the surplus arising from the Safety Fund fees paid by new members —$10.00 on each $1,000 of certificate—will be also thus distributed and applied in payment of assessments and dues.

With a completed Safety Fund, of one million of dollars, invested in United States Bonds, *suppose*, for illustration, disaster in some form should overtake the company, and members were to leave the ranks, refusing to pay their dues and assessments; and suppose, also, the amount of insurance on the company's books had been reduced to one million dollars, the company all this time paying the full face value of certificates presented as death claims, which *it could do* without burdensome assessments: suppose further, that at this juncture, with one million of dollars in the Safety Fund, and one million of dollars insurance in force, a death claim were presented and payment demanded, and the company *refused* to pay it, what then? The trustee of the Safety Fund would be *compelled* to distribute the one million of dollars to the holders of the one million dollars of insurance, each certificate holder receiving $1,000 in *cash* for every $1,000 of *certificate*, The "last man" is thus provided for.

Under this system ample provision is made against excessive cost in old age, and the holder of a certificate has as absolute a guaranty as he can have under any other system that the full face value of his certificate will be paid at maturity, however long he may live and persist in membership. This is assured by the division of the *entire interest* from the Safety Fund, until it reaches its limit of one million dollars, and after that by the additional division of all surplus arising from the Safety fund fees paid in by new members.

We think the system an admirable one, and the company operating it in every respect worthy of patronage.

THE HARTFORD LIFE AND ANNUITY INSURANCE COMPANY,

OF HARTFORD, CONNECTICUT.

IN CONSIDERATION of the representations, agreements, and warranties made in the application herefor, and of the admission fee paid; and of the sum of *ten dollars*, on each $1,000 of the maximum indemnity herein provided for, to be paid to said company as herein required, to create a Safety Fund as hereinafter described, and of three dollars per annum on each $1,000 for expense dues, to be paid as hereinafter conditioned, and of the further payment of all assessments proportioned to the maximum indemnity herein provided for, levied against the herein named member to form a Mortuary Fund for the payment of all indemnity matured by deaths of members, which assessments, to be levied upon all the members in the department wherein this certificate is issued, whose certificates are in force at the dates of such deaths, shall be made according to the table of graduated assessment ratios given hereon, and as further determined by their respective ages and the aggregate maximum indemnity at the dates of such deaths, with due allowance for discontinuance of membership, does hereby issue this certificate of membership in its Safety Fund department to......................(herein called the member) of...............county of...............
State of .. ..with the following agreements:

That ninety days from the receipt by the president or secretary of said company of satisfactory proofs, together with full information as to the manner and cause of the death of the herein named member while this certificate is in force, all the conditions hereof having been conformed to by the member, there shall be due and payable, out of the aforesaid Mortuary Fund, and not otherwise, the maximum indemnity of....................dollars (less the balance unpaid, if any, of the stipulated contribution to said Safety Fund, with fifty per cent. added, together with any balance due said company), to................................ legal representatives upon presentation and surrender of this certificate properly receipted. All such payments to be made at the home office of said company in lawful money of the United States.

That said company will deposit said sum of ten dollars, when received, with the trustee, named in a contract made with it (of which a copy is printed hereon), as a Safety Fund in trust for the uses and purposes expressed in said contract; and shall at the expiration of five years from July 1, 1879, if said Safety Fund shall then amount to three hundred thousand dollars, or whenever thereafter said sum shall be attained, make a semi-annual division of the net interest received therefrom by it, *pro rata* among all the holders of certificates in force in said department at such times, who shall have contributed five years prior to the date of any such division their stipulated proportion of said fund, by applying the same to the payment of their future dues and assessments; and that, whenever said fund shall amount to one million dollars, all subsequent receipts therefor shall be divided by the said company in like manner as the interest. Said company further agrees that if at any time, after said fund shall have amounted to three hundred thousand dollars, or after five years from January 1, 1880, if that amount shall not have been attained before that date, it shall fail by reason of insufficient membership, or shall neglect if justly and legally due, to pay the maximum indemnity provided for by the terms of any certificate issued in said department, and such certificate shall be presented for payment to said trustee by the legal holder thereof, accompanied by satisfactory evidence, as hereinafter provided, of its failure to pay, after demand upon it within the time herein stipulated for limitation of action, then it shall be the duty of said trustee to at once convert said Safety Fund into money and divide the same (less the reasonable charges and expenses for the management and control of said fund) among all the holders of certificates then in force in said department, or their legal representatives, in the proportion which the amount of each of their certificates shall bear to the amount of the whole number of such certificates in force; and that in such event it shall file with said trustee a correct list, under oath, of the names, residences and amounts of the certificates of all members entitled to participate in such division. The evidence referred to above to be either certification by said insurance company's president or secretary that a claim is justly and legally due and that payment thereof has been demanded and refused, or the duly attested copy of a final judgment obtained thereupon in any court of competent jurisdiction, satisfaction of which has been neglected or refused for the period of sixty days from its date. And said company further agrees that so long as any certificate of membership in its Safety Fund department shall remain in force, said fund shall be in no wise chargeable or liable for any use or purpose except as above mentioned.

And said company further agrees that the aforesaid Mortuary Fund shall be in no wise chargeable or liable for any use or purposes other than for the settlement of death claims, except as herein mentioned.

This certificate is issued by the company and accepted by the member upon the express conditions and agreements given elsewhere hereon, and assented to as forming part of this contract:

IN WITNESS WHEREOF, the said Hartford Life and Annuity Insurance Company have, by their president and secretary, signed and delivered this contract at Hartford, Conn., this ....day of........one thousand eight hundred and eighty.........

........................*President.*

........................*Secretary*

On the back of every certificate of membership is the following, forming a part of the contract:

This certificate is issued by the company and accepted by the member upon the following express conditions and agreements:

1. Application made part of contract.—The application on the faith of which this certificate issues is hereby referred to and made part of this contract; and the member hereby agrees that the answers and statements therein contained are material and that they are full, complete and true; that he has verified them and adopts as his own, each statement, representation and answer made therein, whether written by him or not; and that statements made to agent not therein written shall form no part of this contract.

2. Of payments.—The member agrees to pay to said company dues of three dollars per annum on each $1,000 indemnity, for expenses, on the first day of the month after date of issue hereof, and at every anniversary thereafter, so long as this certificate shall remain in force; or by monthly or other *pro rata* installments of the same in advance for periods of less than a year. And also agrees to pay said company, upon all certificates that shall mature by death, within thirty days from day on which notices bear date, all assessments determined as within set forth; the proceeds of which, after deducting ten cents on each assessment for cost of collection, shall form said Mortuary Fund. And further agrees to pay said company the sum of ten dollars on each $1,000, as above, towards said Safety Fund, in a single payment, within sixty days from date hereof; but if not so paid, then by equal installments thereof, monthly, during the first year of membership, commencing sixty days from date hereof. In default of which payments towards the Safety Fund, said company may for this purpose increase said assessments by amounts equal to any such due and unpaid installments; and, while the whole or any portion of such required payment shall remain unpaid, said company may apply toward payment thereof any unapplied sum standing to the credit of this certificate. All such payments to be made direct to the home office of said company, and not to agents, who are unauthorized to receive such payments.

3. Conditions of Acceptance.—The member further agrees and accepts this certificate upon the express condition that if either the annual dues, assessments, or safety fund deposit, as hereinbefore required, are not paid to said company on the day due, then this certificate shall be null and void, and of no effect, and no person shall be entitled to damages or the recovery of any moneys paid for protection while the certificate was in force, either from said company or the trustee of the safety fund, and that if a legal and just claim to benefit, under the terms of this certificate, shall arise before said safety fund shall have accumulated to three hundred thousand dollars, or before January 1, 1885, and the sum collected on the assessments made on account of such event shall be paid over, as hereinbefore stipulated; or if such claim shall arise after said fund shall have accumulated to said amount, or after January 1, 1885, and this certificate be fully settled and surrendered, or if any final division from said safety fund, as hereinbefore provided, shall be made by the trustee thereof on account of this certificate, then, in all such cases, all liability of said company and of its safety fund, on account of this certificate, shall cease.

4. Giving Notice.—A printed or written notice, directed to the address of the member, as it appears at the time on the books of the company, and deposited in the post-office at Hartford, or delivered by an agent of the company, shall be deemed a legal and sufficient notice for all purposes hereof. A transcript of the books of said company, certified by the secretary, showing such facts, shall be taken and accepted as conclusive evidence of the mailing of such notice, and of the facts aforesaid, as set forth in such transcript. Notices given to the member while any payment that has fallen due hereon shall be unpaid, are to be understood only as notices to reinstate membership and shall not be held to extend maturity of such unpaid payments nor as waiving proof that the member is alive and in good health, proof of which to the satisfaction of the company shall be tendered with all payments for reinstatement, nor shall such payments be effective to reinstate membership unless they shall be received at the company's home office anterior to the member's death.

5. Change of Residence or Address.—In case of change of residence, post office address, occupation, or name of the member, or his beneficiary, the member or his beneficiary shall at once give notice thereof in writing to the secretary of the company. In case of failure to do so, the company may proceed for all purposes as if no such change had been made.

6. Prohibitions.—If the member shall be personally engaged in blasting, submarine operations, mining under ground, manufacturing poisonous or explosive chemicals, retailing intoxicating beverages, as engineer or fireman on railroad locomotive, or in "braking" or "coupling" on, and "making-up" of, railroad trains, trading or living among savage tribes or nations, or shall be engaged in military service (except in time of peace), or in naval or any marine service, without, in each of these cases, having first obtained the written consent of said company, or shall use alcoholic or narcotic stimulants so as to produce intoxication sufficient to impair his health or to produce delirium tremens or to cause his death; or shall die by self-destruction—whether sane or insane—or while intoxicated or from effects of drunkenness, or as the result of a duel, or in consequence of keeping or visiting unlawful or disreputable resorts or of the violation or attempted violation of the laws of any nation, State, province or municipality; or if there has been any concealment, misrepresentation or false statement or statement not true made in the application on which this certificate issues; or if the conditions of this certificate shall not be in all respects observed and performed by the member to whom this certificates issues; then, and in all such cases, this certificate shall be null and void, and of no effect, and no person shall be entitled to damages, or the recovery of any moneys paid thereon.

7. *Travel and Residence.*—The member herein named is at liberty to travel by railroad, sea, lake, or river, by all trains, first-class steamers and sailing vessels, and to visit or reside in any portion of the world other than the residence named in the application herefor, where inhabited and civilized, and free from epidemics, wars, or internal dissentions.

8. *Limitation of Action.*—It is expressly understood and agreed that no action shall be maintained, nor recovery had, for any claim upon or by virtue of this certificate, after the lapse of one year from the death of said member; and if no suit or proceedings for such recovery be commenced within one year from the date of death of said member it shall be deemed a waiver, on the part of all parties concerned, of all rights or claims under or by virtue of this Certificate, and as conclusive evidence against the validity of such claim, and this certificate shall be null and void, and of no effect, and no person shall be entitled to damages or the recovery of any moneys paid thereon. And it is further expressly agreed, in case any suit or proceedings shall be commenced for the recovery of any claim under this Certificate after the lapse of one year from the death of said member, or when the claim is otherwise illegal or fraudulent, that the person or persons so commencing suit or proceeding, on failure to obtain judgment therefor, shall pay to said Company the sum of two hundred dollars, as its reasonable attorney fees and damages, in addition to the taxable costs and allowances in the case.

9. *Debts and Liens.*—It is further agreed that this Certificate shall be charged with any and all amounts that may be owing from the member or beneficiary herein, or their assigns, to said Company at the time of the payment of this Certificate, and the Company reserves a lien thereon to secure the payment of any such indebtedness, and the right to deduct and withhold the amount of any such account or indebtedness in payment thereof. But nothing herein contained shall be held to constitute a waiver of forfeiture if any of the hereinbefore stipulated payments shall not be paid when due and in the manner set forth in the conditions of this Certificate. And that in case the laws of any Country, State, or Municipality in which the member or his beneficiary may reside shall require a tax to be paid by said Company on account of any moneys collected hereon, said member agrees to pay the amount of such tax to said Company in addition to the payments hereinbefore named, as part of the payments needed to hold this Certificate in force, either in connection with the payments of assessments and annual dues or otherwise, as said Company may from time to time elect.

10. *Assignments.*—This Certificate shall not be assigned or transferred unless with the concurrent action of the member and beneficiary or beneficiaries, assignee or assignees thereunder; nor unless with the consent in writing of said Company's Secretary and filing with him a copy of all such assignments or transfers, nor unless a claim hereunder, made by an assignee, be subject to proof of interest; nor unless the amount recoverable hereunder by any such assignee (except such assignee shall bear to the member the relationship of wife, child, parent, brother or sister), be limited to the value of the interest proven.

11. *Powers of Agents.*—Agents of the Company can not alter or waive any of the conditions of this Certificate, nor issue permits of any kind, and they are not authorized to make any in-

dorsements hereon, nor to receive or receipt for money on behalf of this Company other than for Admission Fees, for the receipt of which alone the delivery of this Certificate is acknowledgement. Members entrusting money to agents for payment of Assessments, Dues, or Security Fund Deposits, can not hold the Company responsible therefor, until the procurement and delivery by the agent of a receipt, signed by its President or Secretary, for moneys thus entrusted, evidencing the reception of such payment at the Company's Home Office before any default in payment shall have occurred.

On the back of the Certificate of membership is also the following

TRUSTEE'S CONTRACT.

This Agreement, made and entered into this Thirty-first day of December, A. D. 1879, by and between the Hartford Life and Annuity Insurance Company, a corporation organized under the laws of the State of Connecticut, and located in the City of Hartford in said State, party of the first part; and the Security Company, a like corporation also located at said Hartford, party of the second part; Witnesseth:

Whereas, The party of the first part purposes to issue to persons contracting therefor, Certificates of membership in a special department of its business to be known as the Safety Fund Department, and, in consideration of the sum of ten dollars to be received on each one thousand dollars of the amount of each and every such Certificate for the purpose of creating a Safety Fund, to insert therein sundry agreements with such persons in the following words, to-wit:

"That said Company will deposit said sum of ten dollars," "when received, with the Trustee, named in a contract made" "with it (of which a copy is printed hereon), as a Safety Fund" "in trust for the uses and purposes expressed in said contract;" "and shall at the expiration of five years from July 1, 1879, if" "said Safety Fund shall then amount to three hundred thousand" "dollars, or whenever thereafter said sum shall be attained," "make a semi-annual division of the net interest received there-" "from by it, *pro rata* among all the holders of Certificates in" "force in said department at such times, who shall have con-" "tributed five years prior to the date of any such division their" "stipulated proportion of said Fund, by applying the same to" "the payment of their future dues and assessments; and that," "whenever said Fund shall amount to one million dollars, all" "subsequent receipts therefor shall be divided by the said Com-" "pany in like manner as the interest."

"Said Company further agrees that if at any time, after" "said Fund shall have amounted to three hundred thousand" "dollars, or after five years from January 1, 1880, if that" "amount shall not have been attained before that date, it shall" "fail by reason of insufficient membership, or, shall neglect if" "justly and legally due, to pay the maximum indemnity provided" "for by the terms of any Certificate issued in said department," "and such Certificate shall be presented for payment to said" "Trustee by the legal holder thereof, accompanied by satisfac-" "tory evidence, as hereinafter provided, of its failure to pay," "after demand upon it within the time herein stipulated for" "limitation of action, then it shall be the duty of said Trustee" "to at once convert said Safety Fund into money and divide the" "same (less the reasonable charges and expenses for the man-" "agement and control of said Fund,) among all the holders of" "Certificates then in force in said department, or their legal rep-" "resentatives, in the proportion which the amount of each of" "their Certificates shall bear to the amount of the whole num-" "ber of such Certificates in force; and that in such event it shall" "file with said Trustee a correct list, under oath, of the names," "residences and amounts of the Certificates of all members enti-" "tled to participate in such division. The evidence referred to" "above to be either certification by said Insurance Company's" "President or Secretary that a claim is justly and legally due" "and that payment thereof has been demanded and refused," "or the duly attested copy of a final judgment obtained there-" "upon in any court of competent jurisdiction, satisfaction of" "which has been neglected or refused for the period of sixty" "days from its date."

"And said Company further agrees that so long as any Certi-" "ficate of membership in its Safety Fund Department shall" "remain in force, said Fund shall be in no wise chargeable or" "liable for any use or purpose except as above mentioned."

Now, THEREFORE, the party of the first part, in consideration of the covenants and agreements hereinafter contained on the part of the party of the second part and in accordance with its agreement with its Certificate holders as hereinbefore recited, does hereby appoint the party of the second part Trustee as aforesaid and covenants and agrees with it and its successors in said trust to deposit with said Trustee, as soon as received, the sum of ten dollars on each thousand dollars of the amount of each and every Certificate of membership issued by it in the aforesaid department until said Fund shall amount to one million dollars, to be by said Trustee held in trust and accumulated as hereinafter agreed, and the income thereof, less the reasonable compensation and expenses of said trust, to be paid over to the party of the first part, as hereinafter provided, to be used by the party of the first part in accordance with the hereinbefore recited agreements: And when said Trustee shall pay the income, as above, to the party of the first part, or, shall make any other payments from said Fund, as required by the terms hereof, the liability of said Trustee on the amount so paid shall cease; it being understood and agreed that said Fund belongs to the party of the first part, subject to the expressed trusts herein provided.

AND the party of the second part, for itself and its successors, in consideration of such deposits and of a reasonable compensation for its services and the necessary expenses of managing said trust, covenants and agrees with the party of the first part and its successors and with each of the holders of the aforesaid Certificates that it will receive, hold, manage and dispose of all said deposits made with it by said Insurance Company, principal and income, in accordance with the uses and purposes specified in the hereinbefore recited agreements of the party of the first part with its Certificate holders; and shall at all reasonable times exhibit to the party of the first part all the securities and investments composing said Trust Fund; and shall render true statements of the account of said funds and the income thereof to any person entitled to request the same by reason of an interest therein; said party of the first part hereby agreeing to keep the party of the second part correctly informed of the names, addresses, numbers and amounts of Certificates of all persons thus entitled.

That, as often as the sum composing such Fund shall be in amount sufficient to purchase one thousand dollars, par value, of United States Bonds, said Trustee shall make investments of such funds therein and register the same in its name as Trustee of the Safety Fund of the said Insurance Company, and, provided no default by the party of the first part as hereinbefore recited shall occur, shall accumulate said Fund and the income thereof (less the reasonable compensation and expenses), for five years from July 1, 1879, or until such time thereafter as said Fund shall amount to three hundred thousand dollars, par value, of the bonds purchased for said Fund, when the party of the second part will pay over to the party of the first part, semi-annually thereafter, all the further income from said Fund (less the accruing and unpaid compensation and expenses), to be by the party of the first part used for the purposes mentioned in the hereinbefore recited agreements: And, unless such default shall occur, will thereafter add to the principal of said Fund the deposits thereafter received from the party of the first part, exclusive of the income therefrom, until the whole Fund shall amount in such bonds, at their par value, to one million dollars: And in the event of the failure or neglect mentioned in the hereinbefore recited agreements, will convert said Fund into money and divide the same in accordance with the hereinbefore recited agreements, as soon as can reasonably be done after the necessary information of the proper persons and their shares shall have been obtained: Said party of the first part hereby agreeing to put the party of the second part in possession of the information required for the making of a proper division thereof as agreed with its Certificate holders.

All payments required hereby to be made to the party of the first part to cease upon the aforesaid failure or neglect of the party of the first part; and all payments required herein to be made to the Certificate holders by the party of the second part to be made at the office of said Trustee or of the successor in said trust.

The necessary expenses connected with the management of said Fund shall be limited to the ordinary commissions for purchasing or selling and transfer or transmission of the hereinbefore mentioned bonds, together with the cost of the stationery and postage used in replying to requests for information of the condition of said Fund and the actual cost of any judicial action needed to determine the legal status of said Fund: All other expense to be included in and covered by such reasonable charge as shall be made for the compensation of the trusteeship, to be determined by the amount of time and labor involved in the execution thereof.

It is hereby mutually understood and agreed by both parties hereto that all the hereinbefore recited agreements of the party of the first part with its Certificate holders shall constitute the uses and purposes of the trust expressed herein. And it is hereby further understood and agreed that at such time as it shall be shown that all Certificates of membership issued by the party of the first part in its Safety Fund Department, have been legally settled and surrendered to it, or properly canceled in accordance with their terms, it shall be held and considered that the uses and purposes of said trust have been fully accomplished by said Insurance Company, and the balance of said Fund, if any, shall be paid over to the party of the first part.

And it is further understood and agreed that if said party of the second part shall, for any cause, fail to perform its duties as such Trustee as hereinbefore specified, or if, by reason of financial embarrassment of the party of the second part, or other cause, it shall be deemed expedient to remove said trust from its hands, then a new Trustee may be appointed, by the mutual nomination of said Insurance Company, and the then Insurance Commissioner of the State of Connecticut, to succeed to said trust, with all the duties and obligations herein imposed upon said original Trustee, and said party of the second part shall surrender said Fund to such successor.

IN WITNESS WHEREOF, the party of the first part has affixed hereto the corporate seal of said Insurance Company and caused these presents to be signed by its President and Secretary.

And the party of the second part has hereto affixed its corporate seal and its President and Treasurer have hereunto set their hands.

Done in duplicate at Hartford in the State of Connecticut the day and year first above written.

HARTFORD LIFE AND ANNUITY INS. CO.

[SEAL.] By E. H. CROSBY, President,
and STEPHEN BALL, Secretary.

SECURITY COMPANY,

[SEAL.] By ROBERT E. DAY, President,
and WILLIAM L. MATSON, Treasurer.

The following table is also printed on the back of every certificate of membership in this company, and it is a part of the basis of the contract:

TABLE J.

Of Graduated Assessment Ratios for every $1,000 of Death Loss, on each $1,000 of a total Indemnity in force of $1,000,000.

Age.	Rate.	Age.	Rate.	Age.	Rate.	Age.	Rate.
15 to 21	$ 0.65	33	$ 0.91	44	$ 1.20	55	$1.92
22	.67	34	.94	45	1.22	56	2.03
23	.69	35	.97	46	1.25	57	2.15
24	.71	36	1.00	47	1.30	58	2.32
25	.73	37	1.03	48	1.35	59	2.50
26	.75	38	1.06	49	1.40	60	2.68
27	.77	39	1.09	50	1.47	61	2.86
28	.79	40	1.12	51	1.54	62	3.08
29	.81	41	1.14	52	1.63	63	3.30
30	.83	42	1.16	53	1.72	64	3.65
31	.85	43	1.18	54	1.81	65	4.00
32	.88						

☞ These ratios decrease in proportion as the total indemnity in force increases above $1,000,000 in amount, and are calculated so as to cover the stipulated cost of collection.

CHAPTER XIV

SYNOPSIS OF THE MASSACHUSETTS LAW WITH REFERENCE TO ASSESMENT INSURANCE, BY INSURANCE COMMISSIONER JOHN K. TARBOX.—HIS GENERAL REMARKS ON THE SAME.—HIS COMPARISON OF ASSESSMENT INSURANCE WITH OLD LINE INSURANCE.—CO-OPERATIVE BUSINESS, BY JOHN A. MCCALL, JR., SUPERINTENDENT OF THE NEW YORK INSURANCE DEPARTMENT.—CATCH-PENNY INSTITUTIONS.—RESOLUTIONS OF THE EXECUTIVE COMMITTEE OF THE MUTUAL BENEFIT LIFE ASSOCIATIONS OF AMERICA.—THE SUPERINTENDENT'S REMARKS ON THE SAME, ETC., ETC., ETC.—CO-OPERATIVE INSURANCE, BY EPHRIAM WILLIAMS, INSURANCE COMMISSIONER OF CONNECTICUT.—HIS REMARKS ON THE GROUPING OF DIFFERENT AGES FOR PURPOSES OF ASSESSMENT.

From the Thirtieth Annual Report of the Insurance Commissioner of the Commonwealth of Massachusetts, January 1, 1885.

"Chapter 183 of the acts of 1885 is an act to regulate the business of life and health insurance on the assessment plan and to authorize the formation of corporations to transact such insurance on that plan. It is unique in some of its features. Its provisions apply to all associations, now or hereafter formed, which make assessment insurance contracts, except fraternal societies and organizations with select membership, and unincorporated bodies with a maximum limit of five hundred dollars benefit. Corporations organized under it cannot transact business until two hundred persons have subscribed for insurance and paid in one full mortuary assessment in trust fr r beneficiaries. Their contracts must be for a sum specified in the policy or contract, and when the obligation accrues the beneficiary shall have a prior lien, defeated only by proceedings in insolvency, upon all the property of the corporation for its payment, and, if payment is not made within thirty days after demand, the corporation upon notification by the commissioner shall issue no policy while such notice remains in force. Policies cannot issue upon the life of any person over sixty years of age, nor for the benefit of a person who has no interest in the insured life. An assignment to a person having no interest in the insured life voids the policy. Each corporation must provide for an emergency fund, distinct from its ordinary death fund, to be maintained at all times, of an amount not less than the proceeds of one death assessment on all its policy-holders. This fund is to constitute a trust for the payment of policy claims not otherwise provided for, to be invested in such securities as insurance companies may by law invest their capital, and deposited with the treasurer of the commonwealth. These securities can be withdrawn from deposit only upon a requisition of the corporation, endorsed by the insurance commissioner, and for the purposes of the trust. When the corporation shall cease business the fund is to be administered under judicial authority (1), for the payment of accrued claims, if any, and (2), the payment, in order, of claims that shall accrue. Existing corporations are given six months from the passage of the act, and newly organized corporations six months from date of their incorporation, to accumulate the fund.

"All assessments must be for a specific purpose, and the proceeds must be applied to the stated use.

"When a corporation not purely mutual neglects without justifiable cause for thirty days after proof of death to levy an assessment for payment of the claims, the members of the corporation shall be personally liable to the beneficiary for the amount due.

"No corporation shall re-insure with another corporation unless the contract therefor shall be approved by a two-thirds vote of a meeting of the policy-holders held to consider the matter. Agents, solicitors and physicians of any such corporations, are liable to fine and imprisonment for making wilful false statements or representations in reference to insurance therein. The act provides for the admission of similar corporations of other States to transact business in Massachusetts. To qualify itself for such admission such foreign corporation must file with the insurance department (1), a certified copy of its charter; (2), a statement under oath of its business for the preceding year, and that it is paying and for the past year has paid in full the maximum amount named in its policies; (3), a certificate from the proper authority in its State that like corporations of this commonwealth are legally entitled to do business in such State; (4), a copy of its policy and form of application, which must show that benefits are provided for by assessments on policy-holders; (5), evidence satisfactory to the commissioner that it accumulates a safety or emergency fund equal in amount, and of the character required of our home companies. It is made the duty of the commissioner to revoke the authority of such foreign corporation whenever he shall be satisfied that it does not pay its policy obligations in full.

"The act defines the duties and powers of the commissioner in respect to these corporations. He is given the same powers of visitation and examination as in the case of life insurance companies under chapter 119 of the Public Statutes. Whenever he is satisfied that a corporation has exceeded its powers, failed to comply with any provisions of law, or is conducting business fraudulently; and, whenever, after notice upon information of its default for thirty days to pay a claim due, and investigation had thereon, it shall appear to him the liabilities of a corporation exceed its resources, and that it cannot within a reasonable time, not more than three months from the date of original default, pay its accrued indebtedness in full; he shall report the facts to the attorney-general, who shall apply to the supreme judicial court for an injunction and such other judicial proceedings as the interests of the corporation and of the public may require.

"This legislation, though inadequate for some important objects, will effect useful results in the care and prevention of several abuses and the protection of the public, at least in a degree, from imposition, and is perhaps as radical legislation as could be secured in the present state of popular feeling and information on the subject.

"I am, however, not content to pass the matter finally without further brief comment. Insurance has come to be a common need of our social life. Corporations engaged in it serve, in a special sense, a public want, and are not to be regarded or constituted or left subject alone to the laws of trade, as are ordinary business enterprises organized and conducted primarily for individual profit. The people have the right, which the State should guard, to obtain the advantages of these institutions as cheaply as they can be furnished, and that the institutions should be constructed on the basis most conservative of the safety of the interests they involve. * * * * Corporations now organized, with a membership sufficient to pay a full maximum benefit from the proceeds of a single assessment, will be able to adjust their affairs to the requirements of the new statute with little inconvenience, since the old and new certificates will possess the same actual value. But corporations with certificates issued for a nominal amount, larger than an assessment will realize, encounter a difficulty in the management of their business which may be overcome, and perhaps not otherwise than by a substitution for the old certificates of new certificates, conformable to law, for a specified sum as nearly equal as may be to one assessment collection. This substitution the present members should cheerfully consent to, as they will suffer no substantial injury thereby, and it seems the only mode to secure equality in assessments. I entertain no doubt, sufficient to affect official action, that the statute intends the contract shall state precisely and unconditionally the sum to which the beneficiary under it is entitled, and that any form of contract which left the amount to be paid dependent upon uncertain conditions, as the more or less proceeds of an assessment, would be judiciously held an unlawful evasion of the statute."

Under the head of **Beneficiary and Assessment Insurance Corporations**, the COMMISSIONER says :

"The department has unofficial information of several associations which organized in form of law and carried on a lawful, but essentially fraudulent business with the public, for a season, and then disappeared with unfulfilled obligations. These, and similar abuses, inflicted upon the public under shield of the law, will be measurably redressed in future, by the recent act of the legislature. * * *

"The new statute is likely to compel the speedy departure of several, which will be unable to meet its qualifications and have no adequate reason for their existence, and others will ultimately yield to the competition of more potent rivals. And thus the system must abide ultimate judgment upon the fate of a few chosen representatives. The demonstration may be somewhat remote. A well managed association ought to sustain itself for a few years without difficulty. If it attempted to insure lives to the age only of fifty, it might rationally go on for an indefinite term on that basis. But to an association which undertakes to insure persons to the extreme limit of human life, the crisis comes when a considerable body of its members reach old age and the death-rate rapidly increases, as must be. If assessments are graded to the relative prospect of longevity of members, as the ages advance, will the old man stay in and pay the greatly augmented cost of insurance ? If, as probable, not, then the plan fails as whole-life insurance. Or, if assessments are not graded, will the youth stay in and bear his disproportionate burden of a common loss for the benefit of the more aged? The assumption of this plan is that new lives will constantly come in and maintain the average age and a uniform death-rate, in which case the association may last and perform its functions while those relations are kept. Time will test and judge its merits and limitations. Meanwhile, we may safely assume that with proper administration the assessment plan may furnish a cheap and good temporary insurance and a public beneficence; and that the absolute life insurance afforded by the level premium method, is not possible to the assessment plan as yet formulated, because the latter depends on conditions of the future, incapable of present assurance. It is the difference between a naked conditional promise, and an absolute promise secured by sufficient pledge of value. Both plans of insurance have distinctive merits, and in behalf of both, pretensions are put forth not entitled to respect."

The Hon. John A. McCall, Jr., SUPERINTENDENT of the Insurance Department of the State of New York, under the head of "CO-OPERATIVE BUSINESS," in his official report to the Legislature of that State, for the year ending Dec. 31, 1884—date of report, Feb. 19, 1885—says:

"The management of the Co-operative organizations generally appears to be intrusted to reliable and faithful officials, but the difficulty encountered in securing members without the intervention of special agents is apt to place the control and continuance of the association within the power of the intervenors. In very many instances it has been found that the allegiance and loyalty of these individuals depend upon the extension of, or additions to, their jug-handle contracts. And once they sever their connection with an association, their zeal and activity in pointing out its weak spots is comparable only to their efforts to destroy its existence, by a transfer of the members to the agent's latest attachment. It is not surprising that the vehement individuals that prate unceasingly against old line companies should be found pursuing the most objectionable of their methods. In the prominent cases of this coming within the censure of the Department, and made manifest by its investigations, the names of former agents of defunct life insurance companies appear conspicuously. If mentioned they would be recognized as the inventors of chimerical plans, and the stentorian advocates of corporations whose weakness was their chief feature. It is not difficult, then, to understand that mistrustfulness and doubt are engendered by the action and promises of such employés, or that such associations will have but a short-lived existence, when it is realized that the rights of their members are subordinate to the privileges and powers of the agents. The fair-minded people who are honest in their advocacy of this plan of preservation, and whose efforts are directed to protect themselves by reform within, and from danger without, the co operative institutions, are fully cognizant of the troubles that threaten to destroy the usefulness of all the associations. To them the superintendent is confident he will not appeal in vain for assistance in the correction of the abuses described. The officers who prosecute their business in an honest way need have no fear that any doubt of the superintendent as to the system of assessment insurance will be allowed to destroy or impair the existence of any legitimate organization. The law will be carried out in every case, without consideration or thought of the great influences which are often referred to as being continually at work, in and out of the Legislature, for and against co-operative associations. There will be no hesitation in criticising or closing up the affairs of any mismanaged institution, through contemplation of the effect it may have on the remaining associations; neither will the superintendent condemn a society be ause it shows evidence of success, thus disproving the assertions and predictions of those who are paid to print their conclusions.

"The pretenses and promises of some of the managers would be grotesque if they were not put forth in a serious way. It is not doubted that if the promoters of some of the advertised schemes were pecuniarily responsible, they could be compelled, personally, by reason of their false representations to make good their wondrous pledges. That the danger to honest assessment organizations caused by the practices of the catch-penny institutions is realized, will be seen by reference to the report of the executive committee of the Mutual Benefit Life Associations of America, made at the ninth annual convention, held in October last, at Cincinnati, as follows:

"'First. The expense of management must be provided for, in the main, by fixed annual dues.

"'Second. The mortality rates at age of entry must be graded according to one of the combined standard mortality tables.

"'Third. If the mortality rates do not increase with age, after entry, the rates at entry must be loaded twenty-five per cent., at five per cent. per annum, compound interest, and such loading with interest must be held as a liability or reserve, and applied to the payment of the respective policies when they become claims, and the assessments upon surviving members correspondingly reduced.

"'Fourth. If the rates increase after age of entry, such increase must not be less than 100 per cent., or double the original rate, by the end of the probability of life expectancy of the insured.

"'Fifth. If any sum of money or endowment is promised to members during life. such sum must be provided for by collecting monthly, quarterly, semi-annual, or annual payments, in excess of the cost of mortality, that will, at four and a-half per cent. per annum during the endowment period, amount to the sum promised.

"'Sixth. If a uniform rate for all ages is charged, the benefit to be paid must be graded according to the life expectation, and when graded acco-ding to life expectation from age of entry, the rate of assessment must be loaded at least twenty five per cent., at the rate of five per cent. per annum, and reserved and used in part payment of death claims in order to offset the increasing liability arising from the advancing age of members.

"'Seventh. All the modern precautions in selection must be rigidly enforced, and no members admitted over the age of sixty.'

"The recommendations of the committee are quite commendable, and they are quoted here as the judgment of intelligent officials, who by experience are entitled and competent to point out the apparent dangers to the system, and suggest the needed remedies.

"The superintendent does not desire to be understood as favoring or endorsing all of the above recommendations, and in particular he objects to to the one referring to endowment payments, to which payments, on any assessment plan, he is opposed, as being futile and in contradiction of the theory of co-operative insurance. In the main, however, the report of the committee is exceedingly conservative, and will tend to protect the associations and their members from the evils connected with the sham concerns that 'have no hope of existence unless they, so to speak, undersell the honest ones, by promising larger benefits for the same money or similar benefits for less money.'"

"In the line of reform, also, is the action taken during this year, by the Illinois Mason's Benevolent Society, an institution that has paid in fourteen years about $2,500,000 to the beneficiaries of its members. It was apparent from the experience of the society, that while abundantly able to care for its present claims, it was evident it had outlived the scheme upon which it was founded, and its survival depended entirely upon a change of its plan, so that assessments would be regulated by the increasing age of the member, instead of a uniform contribution without regard to age. This recognition of the only method that can give permanency to the co-operative plan of life insurance, is deserving of emulation by the organizations that are operating on the fallacious principle that served to lull the Western organization into a fancied security, until 'the society languishes, and while the older men remain with it, without diminished risks, the young fail to be attracted in numbers sufficient to reduce the average age.'"

The HON. EPHRAIM WILLIAMS, Insurance Commissioner for the State of Connecticut, in his official report to the Legislature for the year ending Dec. 31, 1884—report dated April 10, 1885—says:

"All properly conducted assessment companies fix their yearly assessments strictly according to the respective ages of the members and the year's risk at those ages. All grouping of different ages for a like assessment is inequitable, and therefore objectionable. For the younger ages in the group pay not only for themselves, but also in part for the older ages. It matters not whether the assessment be large enough to cover the risk of the eldest age in the group or only sufficient to cover the average age; in either case the younger are overcharged."

The foregoing official utterances of the Insurance Commissioner of Massachusetts, and of the Superintendents of Insurance for the States of New York and Connecticut, are worthy of careful consideration. More attention has been given to life insurance in all its different phases, and more money expended in its supervision, in these three States than in all the other States of the Union.

CHAPTER XV.

ASSESSMENT INSURANCE CONTINUED.—PROCEEDINGS OF TENTH ANNUAL CONVENTION OF MUTUAL BENEFIT LIFE ASSOCIATIONS OF AMERICA.—LIST OF SOCIETIES AND DELEGATES. —ANNUAL ADDRESS BY PRESIDENT E. F. PHELPS.—REPORT OF EXECUTIVE COMMITTEE.—ADDRESS OF E. B. HARPER, ESQ., WITH REFERENCE TO FIXED DATES FOR LEVYING ASSESSMENTS.—REMARKS ON THE SAME, BY DR. T. B. CAMPBELL, OF WHEELING, W. VA., AND A. S. BROWNELL, OF NEW YORK CITY.—REPORTS OF VICE PRESIDENTS.—DISCUSSION ON VARIOUS TOPICS, BY LEADING MEMBERS OF THE CONVENTION.—ADDRESS OF THE HON. JULIUS L. CLARKE.

Through the politeness of some friend—we know not who—we are in receipt of a pamphlet of 119 pages, entitled:

"**The Proceedings of the Tenth Annual Convention of Mutual Benefit Life Associations of America,** *held in the city of Boston, on the 25th, 26th, 27th and 28th days of August, A. D., 1885.*

As this convention is composed of representatives from the best class of assessment societies in the United States, we have quoted largely from its proceedings, believing that thereby we are giving to our readers the best thoughts of some of the best thinkers who are actively identified with this kind of insurance in this country.

The committee on credentials reported thirty societies represented by forty-seven regular delegates and members, and one "*individual*" membership. They are as follows:

LIST OF SOCIETIES AND DELEGATES.

Societies.	Locations.	Delegates.
Chicago Guaranty Fund Life Society.	Chicago, Ill....	George Sherwood. J. H. Oney, M.D.
Covenant Mutual Benefit Association	Galesburg, Ill..	Col. E. F. Phelps. S. D. Pollock, M.D.
Farmers and Mechanics Mutual Aid.. Association	St. Louis, Mo..	Fletcher M. Doane.

LIST OF SOCIETIES.—Continued.

Societies.	Location.	Delegates.
Fidelity Mutual Life Association	Philadelphia, Pa	L. G. Fouse. W. S. Campbell.
Hartford Life and Annuity Insurance Company	Hartford, Conn.	Stephen Ball. Andrew T. Smith.
Home Benefit Association	New York City.	A. S. Brownell. Wm. G. Richards, M.D.
Home Mutual Aid Association	Boston, Mass..	Wm. L. Wellman.
Kentucky Mutual Security Fund Company	Louisville, Ky..	P. W. Crawford. Frederick A. Lord.
Legislative Associates	....	Col. G. F. Potter. Geo. R. McChesney.
Mahoning Valley Mutual Relief Association	Youngstown, O.	Jas. R. Seagrave. A. D. Ensign.
Mass. Benefit Association	Boston, Mass ..	Geo. A. Litchfield. W. G. Corthell.
Mass. Mutual Accident Association..	Boston, Mass ..	Geo. E. McNeil.
Mutual Benefit Life Co	Hartford, Conn	J. H. Welch, M.D.
Mutual Benefit Life Association of America..........	New York City.	Edward Henry Kent. Wm. L. Gardner.
Mutual Reserve Fund Life Association	New York City.	E. B. Harper. Alfred Taylor, Esq.
Mutual Trust Fund Life Association..	New York City.	W. J. Walker. B. F. Hamell, M.D.
National Life Association	Columbus, Ohio	D. E. Stevens.
New England Mutual Aid Society....	Boston, Mass...	Benj. F. Dyer. J. A. Follett, M.D.
Northwestern Mutual Benefit Association	Detroit, Mich..	James Kelley.
Ohio Valley Protective Union........	Wheeling, W. Va	C. G. Dillon. T. B. Campbell, M.D.
Scandinavian Mutual Aid Association..............	Galesburg, Ill..	Nels Nelson.
Telegraphers' Mutual Benefit Association	New York City.	Chas. P. Bruch. N. Dubois Chase.
Temperance Mutual Benefit Association	Easton, Pa.....	L. A. Tyler.
Union Mutual Association	Battle Creek, Mich	Geo. E. Foote. J. H. Wattles, M.D.
Union Mutual Association	Bath, N. Y.....	Henry W. Garnsey.
United States Mutual Accident Association.............	New York City	Gen. W. B. French. Hon Geo. D. Eldridge.

LIST OF SOCIETIES.—Concluded.

Societies.	Localities.	Delegates.
United Workman...	Grand Lodge of NewYork....	John J. Acker.
Valley Mutual Life Association	Staunton, Va...	C. L. Cooke.
Western Union Mutual Life and Accident Society of the United States.	Detroit, Mich..	L. M. Thayer.
Womens' Mutual Insurance and Accident Company....	New York Cit	John M.Kamping,Esq.
....	Auburn, Me....	M. F. Ricker. (Individual Membership.)

Col. E. F. Phelps, of the "COVENANT MUTUAL BENEFIT ASSOCIATION," GALESBURG, ILL., was President of the convention. The following are extracts from his annual address:

"For the tenth time we are again assembled in the capacity of a National Convention of Assessment Life Insurance Associations, for the purposes of gathering wisdom by a friendly consultation, and a free interchange of thought and experience, which has, in the past, greatly assisted us in giving strength and efficiency to this system of Life Insurance, which we are fully persuaded is destined to be the leading and popular system of the future. Permit me to congratulate you upon the marked progress in the growth and maturity of thought and plan that has been manifested at these annual gatherings, which, like imperishable monuments, mark, step by step, the path we have trodden. Scarcely more than five years before the first meeting of this convention, what we are now justly proud to term the 'American Plan of Assessment Life Insurance,' drifted into existence, as has been aptly and truthfully said, 'without chart or compass.'" * * * "Nothwithstanding the many, almost inexcusable, crudities of its inception, and the numerous disadvantages under which it labored, and in spite of all the organized opposition that interest and prejudice—aided by unlimited wealth—could command, Assessment Life Insurance has, in a little more than one decade, by honest and faithful work, been placed among the leading financial institutions of our nation, and by collecting together at a nominal cost, and distributing for the relief of our widows and orphans the princely sum of $122,962,105, has clearly demonstrated its unquestioned ability to meet the demands of an ever increasing necessity, and, as we believe, but faintly foreshadows its unlimited possibilities for the future." * * * "This convention has in the main taken a broad and enlarged view of the subject, fully realizing that we are not building for to-day alone, or for the present generation, but has looked forward into the future of our institutions, and wisely considered what will give them permanent strength and stability, as well as present popularity and success. While the original intention and design of the early founders of this system of insurance was to build a few small institutions, founded on the principle of organized charity and benevolence, as practised by the fraternal societies for which they were intended as auxiliaries, this convention has been instrumental in radically changing this fundamental idea of its originators, and placing it where, by right, it belongs, on the firm foundation of correct business principles. While it is probably true that very few, if any, of the gentlemen who composed the first convention that assembled at Elmira, N. Y., ten years ago, realized the necessity of conducting the business of their respective associations on principles other than those of charity and benevolence, yet, the interchange of experience and thought afforded by these annual gatherings soon led many of them to see that there was something radically wrong in their system, which, if they desi.ed to become successful, must be immediately changed. Thus we find that for a number of years this was one of the most fruitful subjects of discussion, while other important changes, such as graded assessments, limited benefits with unlimited membership, a careful and rigid selection of risks, with other less vital features, have been so fully, earnestly and effectually considered and discussed, that what was then but a crude, imperfect experiment has been developed into a system of practical life insurance, suited for and popular with the masses, and as a financial institution has taken rank second to none among those matured in this rapidly progressing age."

In support of the assertion that the National Convention has had a marked influence upon the progress and development of assessment insurance, giving it strength and character and securing for it public confidence, the president says: "No stronger proof of the truth of this assertion is necessary than to refer to the standard unanimously adopted at the last session of this convention, which but one year previous was vigorously and almost bitterly opposed, if not by a majority, by such a large and respectable minority that its most zealous advocates deemed it unwise to press it to a final vote."

The president, after portraying the difficulties in the way of planting good seed and protecting its growth, continued as follows:

"But while we have just cause for congratulating ourselves on account of the substantial progress and growth that have been made in the past, yet we must remember that we are but just putting off our swaddling clothes, and that there still remains much to be accomplished by careful study, and hard persistent work, before we can attain the mature development of ripe manhood. While we have adopted a standard that is in advance of the practical operations of many of our associations, and which is undoubtedly scientifically correct, there yet remains much to be done to bring a large mass of associations, who are now honestly endeavoring to conduct the business of assessment insurance up to that standard, and to amend and perfect the recently enacted statutes on that subject so as to protect ourselves and the public against the operations of those unprincipled and corrupt men who are organizing and managing unsound and fraudulent corporations, whose very existence is unjustifiable and dangerous to society. In the furtherance of this cause it becomes our duty to see that laws are enacted and enforced which will enable the general public. who are seeking life insurance, to distinguish the substantial and real, from the captivating frauds, which by their plausible and seductive statements, their active and prepossessing agents, who present figures and theories of imposing magnitude, have been able to secure temporary success."

The Executive Committee of the Convention was composed of L. G. FOUSE, ESQ., of the "FIDELITY MUTUAL LIFE ASSOCIATION," PHILADELPHIA, PA.; E. B. HARPER, ESQ., of the "MUTUAL RESERVE FUND LIFE ASSOCIATION, NEW YORK CITY; G. A. LITCHFIELD, ESQ., of the MASSACHUSETTS BENEFIT ASSOCIATION, BOSTON, MASS.; and D. E. STEVENS, ESQ., of the NATIONAL LIFE ASSOCIATION, OF COLUMBUS, OHIO.

We would like to give our readers the report of this committee, to the Convention, *in full*, but this is impracticable. They must be content with the following extracts:

"The active membership of the Convention has not materially increased since the last session, which is largely due to the restrictive by-laws then adopted. Your Committee has been obliged to refuse a number of applications for membership, because the companies applying could not meet the requirements of the standard and of the by laws. While it is unpleasant to deprive any association of the advantages to be derived from a membership in the convention, we still must recognize that the adoption of the by-laws, setting forth a conservative standard, was the greatest and most advanced step ever taken in assessment insurance. Our work is to a great extent to conform assessment insurance to the laws of mortality. In this we are making good progress. Associations that were members of the Convention before the adoption of the standard, and which had plans in conflict therewith, have generally taken steps to conform to it. Some of them are, unfortunately, hampered by their state laws, those laws being in conflict with our standard, and with sound principles. For such we should have considerations, and it should be our part to aid them in every way in our power in removing shackles.

"During the past year a number of associations outside of the convention have taken steps to change their plans and place themselves on a par with the standard of the convention, or on a permanent basis. The Chairman of this Committee has given his services, experience and suggestions freely to such associations, and it is with great satisfaction that we can look forward and see in the near future all business organizations, engaged in insuring lives on the assessment plan, on a solid, permanent basis. Before that time can be reached, we shall, of course, see the dissolution of many of the weaker companies, and especially of those that organized on a false basis, such as charging all members the same rate, regardless of age, or that of making no provision for meeting the increasing liability from advancing age, thus imposing an unjust burden upon new members, or that of failing to make proper provisions for expenses. * * * Particularly with a view to this matter, your committee submitted, for discussion the following question: '*Would it not be for the interest of Assessment Insurance for this convention to adopt a standard of rates conforming to the requirements of the laws of mortality, and publish the same in all of its reports*'? If this convention could agree upon a standard of rates, capable of mathematical demonstration, it would serve as a guide to associations organizing in the future, to those that contemplate changing their plans, and to the legislatures of our states, in future legislation.

"While we may all have pet ideas as to the best method of reaching the same result, we have a common ground-work or foundation in the mortality tables. Let us adopt a standard of rates that will conform to these, not only the first year of insurance, but for all time, so as to observe strict equity between the insured, and then let us keep it before the public through all our publications. This will have a tendency to check the production, by the futile brains that are constantly endeavoring to develop some new plan that shall accomplish impossibilities, of those mathematical monstrosities and ill-digested schemes which have done so much in the past in retarding the progress of assessment insurance. Some evidence as to the weight which would attach to such a standard emanating from this body, may be had in the degree of attention which was given to the standard recommended by this committee to the Cincinnati Convention, and there adopted, in proof of which we may cite the complimentary references thereto contained in the official reports of the Insurance Superintendents of New York and Ohio. The position occupied by Mr. McCall, and the care and earnestness that have characterized the discharge of his duties, render his commendation doubly valuable, and, we are bound to say, should give added force to his criticisms. For while it was not the intention, and we think was not understood to be the intention of this committee, to give any endorsement to schemes of endownment insurance in connection with the assessment plan, the exception which Mr. McCall takes to even a *quasi* endorsement thereof shows in a marked way how thoughtful men regard the union of two systems that have nothing in common, and whose connection, at the best, must be a forced and unnatural one. At the same time, the soundness of the recommendation made on this point is unquestionable, for if an endownment is to be promised (and we insist that the 'if' shall be the emphatic term) it must be provided in this, the only legitimate way."

(See extract from Superintendent McCall's report on page 170.)

"Attached hereto and marked 'Exhibit A," we give, somewhat in detail, the ordinarily compiled statistics relating to the business of Assessment Insurance in this country during the past year. The principal items in this exhibit are as follows:

Number of companies	430
New members admitted during year	313,321
Number of members close of year	1,655,975
Amount of insurance in force, close of year	*$3,785,163,363
Assessment collections during year	23,856,942
Death-losses paid during year	22,932,056
Expenses of doing business for the year	3,557,052
Assets at close of year	8,238,635
Death-claims paid since organization	122,962,105
Number of deaths during the year	9,563
Number of death-claims paid since organization	52,597

"The exhibit is a satisfactory and even a flattering one and might be made the basis for interesting comparisons, but far more important than this consideration is that of the vast re-

*The committee undoubtedly mean this as the face value of certificates. Some societies pay face values, but more do not. AUTHOR.

sponsibilities that are placed upon our companies by this far-reaching business. This thought also calls up a feeling of regret, that, in not a few instances, this sense of responsibility is not sufficiently keen to impress upon managers the necessity of shaping their plans to meet those fundamental principles that must underlie every system of life insurance, and can no more be ignored with safety in assessment than in level-premium life insurance. The failure to appreciate this has led to disastrous results in the past; it can but lead to the same in the future. A few years at the inception of a society, when new risks are easily obtained and when a comparatively recent medical selection has its most marked effects, are not sufficient to test a plan or to warrant loud claims of success.

"The future is even more the province of the Life Insurance Company than the present, save that the future is the outgrowth of the action of to-day. Our standard of one year ago was none too severe; its necessity and strength we shall be in a better position to appreciate a year from now than to-day, but of this we may rest assured, the peril of assessment insurance is in the cowardice of those in its ranks who have not the courage of their convictions, but temporize to-day with the dangers that threaten them to-morrow, in hope that, when that to-morrow comes, some, before unheard-of, revulsion of the laws of mortality will bring them immunity from the destruction they have so assiduously courted. It is this which gives a serious aspect to the increasing volume of business which every year shows to be setting towards assessment companies, and it is against this that this convention should set its face and its influence, if it is to do the best that lies in its power, and be, in the broadest sense of the word, the power for good which alone makes it worth our while to meet in these annual gatherings and to take counsel with one another of the experience we have gained in our work."

Address of Mr. E. B. Harper. SUBJECT: SHOULD NOT OUR ASSOCIATIONS ADOPT FIXED DATES FOR THE LEVYING OF ASSESSMENTS?

Among the many good things said by Mr. Harper in this address we notice the following:

"The one million of members enrolled upon the books of our various assessment organizations represent all classes of citizens, the rich and the poor, the ignorant and the intelligent; those who fluently speak, read and write the English language, and those who can scarcely understand the same; many reside in homes of affluence, with established business headquarters; many who live in the flats and tenement houses of our cities, and in small suburban homes in the country; many who have no established business headquarters, but who earn their living by the actual sweat of their brows, and whose varied pursuits necessitate the frequent changing of their post-office addresses. It is obviously unjust that the insurance held by a member should be lost to him without any fault of his, or without his knowledge; but so it may happen, even while the member may be upon his death bed, and in his dying hours, when he supposes that he has to the fullest extent in his power provided for those dear and near to him. This calamity may befall a member if there are *not fixed dates for the levying of assessments.*"

Mr. Harper gives other and very forcible reasons why fixed dates for assessments are an absolute necessity, and closes this part of the argument with the following:

"*Therefore*, I advocate, and I urge it upon all the assessment organizations of our country, that they should adopt fixed periods for levying their mortuary calls. From my own experience I would advise that said calls should be fixed and established either monthly, bi-monthly or quarterly, so that the members may know, years in advance, when and where they are expected to contribute their share towards the payment of the current death losses."

Mr. Harper continued as follows:

"I submit, therefore, Mr. Chairman and gentlemen of the convention, that this matter practically resolves itself into the question whether we, who are engaged in the interest of the widow and orphan in a cause which numbers 1,600,000 members, can hope and expect that the cause can go on winning converts and retaining their confidence when any such misadventures as I have illustrated can happen without any fault of the member; and I maintain that the managers of our assessment organizations will themselves have to contend with charges other than what I have stated—charges that when they discover that a member is deceased, they simply fail to send his usual notice. I have heard those charges repeated and repeated time and time again. It is one of those things which cannot be disproved, and the only way the management, in my opinion, can show to the world that they mean to do what is right by their members, is for them to establish periods when the mortuary calls shall be made."

T. B. Campbell, M. D., of Wheeling, W. Va., would prefer a table of rates that might require six to eight assessments a year, thus avoiding extremes.

Mr. A. S. Brownell, of New York City, was inclined to fix dates for making assessments. If asked to express his preference he would state bi-monthly assessments, in amount varying according to the necessity of the period, or of stated amounts sufficient to cover probable losses, with periodical rebates for unused amounts, preference being given to the latter. He then offered the following resolution, which was seconded by L. G. Fouse, of Pennsylvania:

"RESOLVED.—*That it is the opinion of this convention that it is for the interest of the Mutual Assessment Associations to adopt fixed times for the levying or payment of assessments.*"

After a somewhat lengthy discussion by Messrs. Walker, Taylor, Kamping and French, of New York; Cooke, of Virginia; Fouse, of Pennsylvania; McChesney, of New York; Seagrave and Stevens, of Ohio, and Phelps, of Illinois, *the resolution was passed unanimously.*

Section 2, Article IX., of the by-laws of the convention requires its vice-presidents to report, annually, the progress of assessment insurance in their respective states. These reports are very interesting and replete with instruction as to the status of assessment insurance in their several localities. We note the following:

From New York—A. S. Brownell, V. P.

Claims paid for the year	$3,389,875
Expenses	1,068,511
Assets	1,894,812

The new business for the year, secured in New York State alone, was $151,131,000.

From Virginia—E. L. Edmondson, V. P.

"There are two home companies in Virginia, upon the assessment plan: 'THE VALLEY MUTUAL LIFE ASSOCIATION OF VIRGINIA,' and 'THE STAUNTON LIFE ASSOCIATION OF VIRGINIA.' The various secret societies have lodges in almost every town of any size throughout the State. They secured a large membership when established, but I am now under the impression that additions are now rare."

"THE KNIGHTS OF HONOR, ROYAL ARCANUM, AMERICAN LEGION OF HONOR, and others, are charitable beneficial associations, and are giving much comfort to bereaved families, but I am of opinion that there are other organizations, feigning to do business upon the lodge system merely to evade the laws with which our companies are required to comply. This fact demands attention, investigation and such exposition as will bring them into proper relation to the law."

From West Virginia—T. B. Campbell, V. P.

Mr. Campbell reports that a law had been passed by the legislature placing assessment insurance under the supervision of the State Auditor, who is *ex-officio* Insurance Commissioner. He speaks approvingly of the law. He says:

"The several fraternal societies are doing a fair business in our state, and while the business of life insurance has never had that growth in our state that it has had in some of the more wealthy communities, it is certain that assessment insurance is appealing more strongly each year to our people, and it seems probable that, under the provisions of this bill, confidence will grow more and more. The only companies incorporated under the laws of our state are the "OHIO VALLEY, OF WHEELING, which began business over seven years ago, and the EQUITABLE MUTUAL, OF MARTINSBURG, a younger company, but one that seems to be doing a good business and to have the confidence of the public in the localities where it is working."

From Ohio, BY D. E. STEVENS, in the absence of the vice-president. Mr. STEVENS says:

"A bill had been presented, and a bad one it was. That we attacked. We amended errors, struck out Section 3,630, the limit of $7,000 in amount of insurance, and of $2.00 per one thousand that can be laid as an assessment, and inserted authority to accumulate a reserve fund, limited and regulated by the laws of the different companies. We went with the bill thus changed to the Insurance Commissioner and asked him to examine it and give us his opinion in regard to it. As a result of his examination, he told us that *he could endorse the bill from top to bottom*, and that he would go before the committee of each of the two houses and urge its passage, as it was directly in the line of all his thoughts. We presented it to the Senate, which it passed by a three-quarters vote ; without oppositions in fact, and without the change of a single line. We went to the house, which we canvassed thoroughly until we were satisfied as to its attitude, when we had the bill referred to the Insurance Committee. The Legislature adjourned on Friday until Tuesday morning. and there was a pilgrimage of many people to the State Capitol that Sunday. On Tuesday morning we discovered that something had happened to our bill, and we were never, by any method that we could bring to bear, or think of, able to get it before the House again. It died in the hands of the Committee on Insurance. However, I can say that, in six years of experience before Legislatures in Ohio, asking for the passage of just laws, I have never found the sentiment so much in favor ef assessment insurance as I found it last winter,in both Senate and House ; and had it not been for the 'something' that happened on that particular Sunday, I am satisfied that to-day we would have had as good a law in Ohio as there is in any state in the Union. * * *

"The Insurance Superintendent of New York has done us a very great kindness, which, however, was too late to do any good last winter. He has notified the Beneficial Associations, Secret Orders, Odd Fellows, Masonic, and the like, which are organized in our State, that they cannot continue doing business in New York unless the laws of Ohio are changed. Heretofore, these societies or orders were perfectly indifferent, and would not help us by the turning of a hand ; now they are all impressed with the necessity of the passage of proper laws.

From Massachusetts, by MR. GEO. A. LITCHFIELD. He says :

" We have met the enemy and they are ours. I think that the record indicates a growth of public opinion in the right directions ; and you know, Mr. Chairman, that there is nothing so favorable to success as success. Since the enactment of the law, public opinion has seemed to be fully up to it, and, in some cases, in advance of it. The law embraces those features that were advocated by the friends, and had been opposed by the opponents, of assessment insurance. * * The talk now is, let us have strong and permanent assessment companies that have some money ; and though the bill is, in some respects, a little oppressive to honest, small companies, I think in the main that it will work untold good to assessment insurance.

From Michigan.—MR. GEO. E. FOOTE, being called on, said :

" We are in Michigan much like yourselves in regard to honest assessment life insurance. Though we have good laws, we have had a great many more companies on the assessment plan than there was any occasion for; and many of these have made great mistakes, many of them doing business simply and solely for themselves and for the gain that can be made for the time being.

We have some good, honestly-managed institutions, and they are doing a good business and are growing. Such of these as have paid their death-losses in full from the start and promptly, find that this fact gives them a great prestige in gaining the confidence of our people, especially as there have been so many that have failed to pay anywhere near one hundred cents on the dollar. But many of these have already given up and retired from business, and there are others that must follow them."

From Illinois.—Col. E. F. Phelps, in the absence of the Vice-President from Illinois, said:

"As you are probably aware, we had a session of the legislature in Illinois the past winter, but it used up four months in electing a United States Senator, and there was left no time for anything else; so that it was not propitious for securing any of the changes in the law that we might desire. In fact we think that we have a very fair law, and it could hardly be improved except in two particulars. One of these is, that the law is very easy for new organizations—not strict enough in laying down a standard to which they must conform; and the result is that quite a large number of institutions have been organized with *fraudulent intent* by men of a character such as would bring no credit to assessment insurance. I am glad to say that the Insurance Commissioner has been far more strict during the last eighteen months in scrutinizing these institutions than previously. But the fact is, we have not in Illinois any association, that is, any leading association, doing a general business, *that is up to the standard of this Convention.* The gentleman who was named as Vice-President last year was conducting an institution that was not up to the standard, but who was on my recommendation simply admitted for last year. It was not an institution, however, that added anything to the strength of this convention. I believe Illinois to be a good field, and I regret that one or two of her associations are not represented here to-day; but still there are a good many institutions there with features that *are not endorsed by our standard.* I am satisfied that at the end of another year I can have from Illinois a better report to make in regard to the work of the general associations and the fraternal orders. THE NORTHWESTREN MASONIC was formerly a member of this convention, and all the gentlemen here would be glad to see it represented again." (The italics, above, are ours. Author).

From Pennsylvania.—This State being called, MR. L. G. FOUSE responded as follows:

"You are well aware that but a few years ago our State was cursed by the existence of some two hundred companies that were organized not for any legitimate purpose, but for the purpose of swindling and fleecing the public under the cover of life insurance. Happily they are out of existence; they did not continue for a great while. * * * There was no demand for the two hundred and ten companies to be organized within a period of twelve months. It is evident to any reasonable mind that they had some object other than legitimate insurance. They were wiped out of existence by public opinion and legislation, which was secured through the efforts of only, I may say, one organization. We have the number limited in Pennsylvania that are doing business on the assessment plan to perhaps half a dozen, and out of that number I may be allowed to say that the company I represent is the only one that has its plan adjusted to the science of insurance and that is doing aggressive work. We have had the pleasure of having quite a number of foreign companies come into the field, and I can say that the status of our kind of insurance in Pennsylvania is prospering, and I think the associations that are doing business there are generally meeting with success."

From Iowa.—H. M. PICKELL, V. P.

"Conservative associations have made substantial progress in the way of growth and improved plans, while weak concerns, without reserve, and especially those carrying sick benefits and endowments, have grown still weaker. Some of them are from six months to one year behind in death losses, and in many of them the lapses exceed in number the applications. The 'SOCIETY OF THE ARK OF SAFETY,' at Iowa City, has adopted the wise course of retiring from business, and has transferred its members to the 'GUARANTY LIFE OF DES MOINES.' I am informed that the 'CEDAR RAPIDS MUTUAL RELIEF SOCIETY' is about to retire also, and transfer to the 'FIDELITY,' of Philadelphia."

In the discussions of the convention, on various topics, we note the following:

Mr. Litchfield:—

"Do I understand Mr. Harper to say that he believes that one-third of all the claims paid by assessment associations in the first five years are fraudulent?"

Mr. Harper:—

"In all life insurance companies—I make the statement—one-half the claims presented for payment within the first four years after entrance are fraudulent claims. This statement refers to level-premium companies as well as to our own. I think there are gentlemen here who will substantiate this statement. I do not mean to say we pay them; I mean to say that the proofs of loss are presented for their payment; if the policies are incontestable you would pay those fraudulent claims."

Mr. Litchfield:—

"I would like to repeat my question, because it is a very important one. I understand Mr. Harper to say that, in his judgment, one-third of all claims that are presented for payment, which, of course, includes all that are paid, in the first five years after entrance to a company, in his judgment, are fraudulent."

Mr. Harper:—

"Three or four years—first four years, is my statement."

DISCUSSION OF THE QUESTION.

"Should not this convention exert its influence for the removal of the restrictive legislation, in certain States, which prohibits assessment companies from making definite contracts of insurance?"

This discussion is an important one.—So important that we have given it in full. It was participated in by **Hon. Geo. D. Eldridge**, of the UNITED STATES MUTUAL ACCIDENT ASSOCIATION, of New York; **W. S. Campbell**, of the FIDELITY MUTUAL LIFE ASSOCIATION, of Philadelphia, Pa.; **E. B. Harper**, of the MUTUAL RESERVE FUND LIFE ASSOCIATION, of New York city; **W. J. Walker**, of the MUTUAL TRUST FUND LIFE ASSOCIATION, of New York city; **Geo. A. Litchfield**, of the MASSACHUSETTS BENEFIT ASSOCIATION, of Boston, Mass.; **Col. E. F. Phelps**, of the COVENANT MUTUAL BENEFIT ASSOCIATION, of Galesburg, Ill.; **Geo. E McNeil**, of the MASSACHUSETTS MUTUAL ACCIDENT ASSOCIATION, of Boston, Mass., and **D. E. Stevens**, of the NATIONAL LIFE ASSOCIATION, of Columbus, Ohio.

In reading the discussion let it be remembered that the question is not whether the different organizations represented in the conventions shall *adopt* and *issue* **definite contracts of insurance**; that is not the question, at all—but it is whether or not the convention shall *exert its influence* for the *removal of the restrictive legislation*, in certain States, which prohibits *assessment associations* from *making definite contracts* of insurance, if they *desire* to do so.

Mr. Eldridge opened the discussion and said:

"Mr. President and Gentlemen of the Convention: The question proposed by the Executive Committee pre-supposed in a certain sense a radical change in the system, or in the minutiæ of the system of doing an assessment business. At the same time it is a change the consideration of which is forced upon us by the action of Massachusetts during the last winter, in enacting that companies, chartered under its laws to do an assessment life insurance business, shall write a contract definite in amount, and unless they are able to pay that amount or do pay that amount, shall cease doing business. The radical character of this departure is perhaps rather in appearance than in reality, since the present practice has grown undoubtedly from the fact that assessment insurance had its birth in fraternal organizations, or organizations confining their work to the membership of a certain order, whence it took upon itself the form of a provision, voluntary in a certain sense, and therefore liable to fluctuations, and in no sense compulsory upon any member. But we must recognize the fact that during the last fifteen years, the period during which this form of insurance has held any kind of prominent place, a very radical change has come upon the businsss, and a system, not of charity, not of benevolence, but of actual business methods, has grown out of it. The result has been a division between organizations common in object, and a class distinct from our fraternal and benevolent organizations have grown up, that claim they can furnish absolutely the same benefits as the older system of life insurance—the 'old-line' system—with the same certainty, but at a lower cost and on a different scale of payment of premium.

"If these organizations can do this, they come before the public simply as business organizations furnishing life insurance, entitled to no consideration at the hands of the legislature or of the public, that other business organizations, dealing in life insurance as a business, are not entitled to. For in doing business as a business they are fulfilling the very objects that they claim they were organized to fulfill. But the result of differing practices and differing laws is, in New York, the companies write a contract, saying they will pay a certain benefit to be fixed by the amount collected, according to a fixed scale of assessments; in Ohio it is illegal to write anything but a conditional contract, and so in other States. The result is, we have a system claiming a legal status to do insurance as a business, and yet, whenever we meet the system that we claim to be a rival of, in a contest before the people, we are met with the argument from the other side: 'Why, this is not a definite contract of insurance, it is simply a conditional promise to pay, it is simply a promise that you will pass the hat around and pay to the beneficiary whatever you may realize; and that is the statement of your contract and the only obligation you are called upon to meet.'

"Now, is this an advantage or a disadvantage to an honestly managed assessment company? We are told by the advocates on one side, that to do anything else is contrary to the spirit of assessment insurance. It may be contrary to the spirit of charity or benevolence, but is it not directly in the line of insurance, considered as a business transaction? If we can do anything in the way of furnishing insurance, we are able to do something that is trustworthy, something that our members can depend upon as absolute, and with regard to which they may feel the same assurance that, if the contract does not become a claim for five, ten, or twenty years from now, they may still rest assured that they will get the amount of insurance paid for, the same as in a sound old-line company.

"What, in practice, has been the course of our business institutions? As rapidly as possible, those that were organized on the basis of simply paying what could be collected, have directed their efforts to arriving at a position where their payments shall be the face of their policy; until they have done so, they feel that they are still in an experimental state. Suppose any company that attains the position where it can pay its maximum certificate in full, after doing so for a few years, finds its membership declining, and it becomes known to the public that it is unable to meet its contract, it is no use for it to urge that its contract does not say it is going to pay $5,000, but only that it will pay what is collected, not to *exceed* $5,000; for, if it ever comes to the point where the members find that the contract is worth only 90 per cent. of its face, the result inevitably will be that next it will be worth *less* than 90 per cent., and the dissolution of that company is only the question of a short time. If the managers of these companies are prudent business men, they take counsel of the present and of the future to the end that they may put themselves in a position where in any contingency they will be able to meet the contracts they have out.

"To make this obligatory by law, places every company before the public in an attitude that it has certain definite obligations which it has entered into, and which it must make preparations in the present to meet in the future; but if the matter is contingent; if it is simply what we can pay, the company has no legal, however strong a moral obligation it may have, to make preparations for the future. Therefore, every such institution, unless it recognizes this obligation, in time becomes a direct weight upon the interests of those who are laboring to put their companies on a good standing, and will aid in the end in bringing discredit upon them and injury to the business. Therefore, all of those institutions which are conducting their business honestly, although their contract is simply contingent and not absolute, are determined to pay and to be *able* to pay their losses in full in any event, and the law which prohibits them from making a definite contract fosters the growth of a number of institutions which are falsely claiming to do just what the others are doing, and it is plainly for the benefit or those organizations that are being conducted honestly, that this restriction should be removed, and not only that the restriction should be removed, but it should be made obligatory upon our companies to write a definite contract. Indeed, the proposition that these institutions should be permitted to write a definite contract of insurance, and in fact as I have stated before, be *obliged* to write it, rests upon the simple consideration that, if we are what we *pretend* to be, that if our system is anything more than a mockery and a pretense of the present to catch victims who will be swindled in the future, we must make a contract which will be good for five, ten, fifteen, or twenty years to come, *just as certainly* and *absolutely* as that of the *old-line* system. That, I think, is the idea on which the Massachusetts law is based. It was an acceptance of our claim that this is a system, not of charity, but of insurance; and that there should be no chance to evade the payment in full of claims, no chance that the amount to be paid is the amount collected from an assessment up to a certain limit, and that there should be no chance under this system of *pretending* one thing and then *doing* another, this provision was adopted. To my mind it is not only wise, but it is right to the point where our efforts must be directed. If we would conduct the business honestly under it, we must make such preparations for the future as are necessary to the integrity of the undertaking, and these must be set forth in our contracts with our members. If we do not do this, if we assume obligations without preparing ourselves to meet them at maturity, there should be but one natural penalty, and that is the loss of the charter and the stepping aside for some one else to do the business. No company that is organized on a conditional basis, with the idea of doing business as a *business*, expects to go on in future years, paying ten, fifteen, twenty, or twenty-five per cent. of the face of its policies, without reaching a point where it can make good its contracts for their face, but companies will realize far better the obligations that this implies under a definite than they possibly can under a conditional contract."

W. S. Campbell, Esq., said:—

"I do not agree altogether with what Mr. Eldridge has said, for this reason. In view of their defective plans of insurance, I think it is exceedingly unwise for the Convention to permit all assessment companies to issue definite contracts of insurance. It is one thing to become a party to a contract, but it is an entirely different thing to discharge that contract. If the laws were so amended that all companies can and must issue definite contracts of insurance, then the laws sanction the contracts made by those companies who have not the ability to carry them out. If it be true that a reserve fund or an advancing rate of assessment be necessary to the permanence of an assessment company, then to pass a law of this kind, allowing all companies to issue them, would be an injury to the business of assessment insurance and to different organizations in this country—*all* of those companies that have not the ability to carry out definite contracts of insurance, and I therefore think it would be unwise to permit companies of that kind to issue contracts, when the managers would not have the ability to fulfill them. On the other hand, it would be unfair and unjust to exclude a healthy association that *has* the ability to discharge its contracts from issuing an absolute policy of insurance. I would suggest, therefore, that such assessment organizations as can conform to a certain standard, and have the ability to carry out a definite contract, should be allowed to make them, but those companies that cannot conform to such a standard and have *not* the ability to fulfill their contracts, should not be allowed to make them.

Mr. Eldridge:—

"It seems to me that the very argument advanced against compelling a definite contract—although I acknowledge the word 'compelling' goes rather outside the question, which is simply a question of removing restriction—is one of the strongest in favor of such a contract. These companies organized upon plans that render it impossible for them to fulfill a definite contract, are organized for the purpose of inducing people to insure their lives. Nine out of ten who insure their lives under a conditional contract, with a business organization (and I draw the line of distinction as between business and fraternal organizations), suppose they are insured for the maximum amounts of their certificates; they expect that their beneficiaries will get the maximum amount named in their certificates. If the law compels every institution to write a definite contract, to guarantee to pay a fixed sum in case of death, the result will be one of two things; either these institutions will adjust their plans so that they will be able to do this thing, or else, when they fail to pay the amount of their first death claim, the institution will be closed up and put out of the way of companies that can make a definite contract. I am in favor of writing an honest certificate or policy as against a contingent or a benevolent contribution. I am in favor of compelling a definite contract and sweeping out of the way a class of organizations that never intend to practise correct methods, but that now stand in the way of companies that do."

Mr. Harper:—

"This, in my judgment, is a subject of the utmost importance. I think we ought to take up the questions that are negative. It may be, that by discussing these negative questions we may be converted and become advocates of the same.

"Our good friend, Eldridge, we all know has a level head, and his thoughts are carefully prepared and entitled to due consideration. Mr. Campbell and Mr. Fouse belong also in that line of gentlemen of intelligence. But the question is an important one. In the State of New York we have a law which says that no contract shall be made by an assessment organization that is definite. In Massachusetts we have a law which says that no company shall be admitted unless it makes a definite contract, or words to that effect. Various States of the Union have passed laws prohibiting a definite contract on the part of an assessment organization. The interpretation of a definite contract by the insurance commissioners states, if I understand it, that the company issuing the same shall have a reserve fund and cash on hand, which, added to their future premium, will equal the face of the policy in an average duration of life. Apply that rule to Mr. Campbell's proposition of an advancing rate, and the future premium which the member has agreed to pay will equal the future payments which the company has agreed to pay, and the cash on hand will be enough, as you will see; consequently, we could comply with the law if the departments would so construe it.

"The difference between a contract when the rate increases each year, and the contract issued by the Level Premium Companies, is this, that the level premium companies agree that they will receive a definite sum, year in and year out, and pay a definite sum. The result is that they have agreed to receive from the member a certain sum of money within an average duration of life, and at the expiration thereof they agree to pay to the member a certain sum of money; the difference between whatever they have agreed to receive and what they have agreed to pay is the reserve fund. I am not entirely opposed to the principle embodied in the question, and neither am I prepared to advocate it at the present time, without further consideration, for the reason that the courts of New York have decided that a member is liable for the contracts or liability of his contract; and it would seem to me that it would become a very dangerous thing for a person to give an application for insurance in one of these companies unless it was able to meet it; and its ability to meet the contract will depend upon the persistency of the members.

"Now, apply that thought along through the line, and while Mr. Campbell's company, or Mr. Campbell's plan, may have advocates, the rates must be founded upon scientific principles, that the members have agreed to pay in the future as much as the companies have agreed to pay in the future; yet, if the members refuse to pay in the future what they have agreed, and drop out, it might be that individual members would be liable for the full conditions of these contracts. I only throw this out for the consideration of the convention.

"Then we should take another step, and would see what effect that would have on our ability to obtain new business. If the opponents of this system should send out their literature to say that the individual members making an application to an assessment organization becomes personally liable for the contract issued by it, the reply now is that we agree to pay that which we receive; the reply then would be we agree to pay a definite sum, and if persistent members do not pay it the laws say they may be forced to pay this definite sum of money."

Mr. Litchfield:—

"Has the practice been to make that contract good?"

Mr. Harper:-

"No, sir."

Address of Hon. Julius L. Clarke, FORMERLY INSURANCE COMMISSIONER OF THE COMMONWEALTH OF MASSACHUSETTS, delivered Thursday, August 27, 1885.

After a few preliminary remarks, Mr. Clarke said:

"Long before Assessment Life Insurance began to assume the character and importance of a great commercial enterprise in this country, I had become familiar, through personal visitation and acquaintance at the home offices of foreign friendly societies and fraternal organizations, and others of similar character abroad, with the administration and working of their system, from which our own are the outcome; and in that convention I had come to see and realize, as an official and as a private individual, the growing necessity and demand for a system of life insurance that should be both popular and within the reach of the masses of the people. I mean that portion of our population which, from pecuniary considerations, are unable to comply with the terms of the level-premium insurance. And please understand when I make this reference, I mean no implication or criticism of either system. I deprecate antagonisms between them, for I believe that each has its field and its mission to occupy and fulfill.

"Now, gentlemen, when I refer to the topics which have been brought before me I want to emphasize one point, which I consider imperatively important to assessment insurance in this country. Remodelling or reformulating, as I have during the present year, the business methods of some of our assessment organizations in this and other States, I have felt the necessity of a well defined compilation of mortuary experience as appertaining to American Assessment Insurance Companies. Within a few days I have received from a friend in London a report of the friendly and other societies in England for the last ten years, giving mortuary and financial experience—just such as is wanted for use in this country, but compiled from our own organizations.

"We have no reliable, no intelligent compilation of American experience under this system of insurance; and that is what I think you will find an absolute and growing necessity, and one which ought to be secured at the earliest possible date. I say this in view of the fact that assessment life insurance in this country has come to stay, and not only to stay, but to occupy in the future a position which will place it side by side with our great public benefactions. Why, with four thousand millions of outstanding insurance at the close of 1884, and the payment of twenty-three millions in death claims during the year at an expense of only three million five hundred thousand dollars—with such a record as that, its working expenditure computed upon the same basis as that adopted for level premium insurance companies—I mean computed upon the mean amount of outstanding insurance—shows its expense ratio to be the merest bagatelle. I speak in no unfriendly criticism of level-premium companies; both classes have their mission; I believe in both. I believe in yours as within the reach of the masses, who cannot avail themselves of the privileges of the other. And now, gentlemen, with such a record as these statistics present to the people of this country, I venture to say that neither you nor I, nor anybody else, can begin to anticipate or measure the possibilities of Assessment Life Insurance—possibilities already so far realized as warrant the promise of a great public benefaction which ought to be perpetuated."

CHAPTER XVI.

THE PROGRESS OF LIFE INSURANCE.—INTEREST.—INTEREST LAWS OF THE STATES.—EXPLANATION OF THE TABLES.—TABLES.

THE PROGRESS OF LIFE INSURANCE.

(*New York Insurance Report, 1885.*)

The history of the life insurance business, transacted by the twenty-nine companies licensed to carry on business in this State, presents some remarkable features. Omitting for the present purpose of comparison all reference to the 1,092,429 industrial policies outstanding, the increase from 49,000 policies covering $141,497,978, reported in 1859, to 750,567 policies, insuring $1,870,728,059, in 1884, is truly wonderful.

The twenty-five years that have passed since the first statements were rendered have not been a continuous era of prosperity, either with the companies or the business community. The rebellion, the financial panics during its progress, and since its close, the failures of over forty-one companies and the distrust and doubt cast on all thereby, have had their militating influence during the greater part of the time referred to. Yet, to-day, the companies that have survived these disastrous periods present a financial growth that stands unrivaled in the history of monetary institutions, and with a prospect of continued prosperity that will scarcely admit of comparison. The payment of $897,272,182 to beneficiaries, and an invested account of $491,487,719, entitle the trustees to a reward which no personal expression will compensate. The achievement of this grand success belongs to no one who has passed away, for the men who are identified with it continue to labor unceasingly in their trust. It is such an easy task to criticise the companies without cause, that it is not a surprise to find so many critics; the wonder is that there should be a limit to their number. But so it is, when either individuals or corporations have succeeded in business, the professional carper prepares himself to hint—for his own safety it never gets beyond an inuendo—that something must be wrong. The corporation receiving its chartered life from the State, and depending upon it for its existence, unlike the individual, is subject thereby to an attack by a method which admits of no redress, notwithstanding the maliciousness and evil motive of its originator may, and generally is, as evident as the noon-day sun.

Through all these difficulties the companies have thrived, and at this date, after complying with all the rigid requirements of the State laws, they show a surplus of $81,811,191.16 above every liability.

It is admitted that in some of the defunct companies there have been grave errors of management, and instances have occurred of peculation and fraud that have been astounding. All these have been described, and the punishment of the offenders sought, and in some instances secured, in the way fixed by law for the trial and conviction of evil-doers. These cases give no license, however, to destroy sound institutions by drag-net inquiries characterized by less than a little knowledge of the business, and prompted by the hope of a reward not looked for in the answers. Notwithstanding all the possibilities of injury that may be open in this way, to create distrust and fear among the policy-holders, the companies continue to gain new adherents. During the past five years they have had an increase of 140,000 policy holders and $394,000,000 insurance. The assets have increased over $73,000,000 and the surplus $10,000,000 in the same time. These facts are cited to show that within the companies there is no discontent to be found. The trouble is with those who are not within them, but want to be. Nevertheless, the organizations will doubtless continue to add new members and command patronage at home and abroad. It is not to be assumed that they will ever be free from imputation and harassment, even if they continue their wonderful improvement in resources and public confidence, unless, indeed, there should be like progress in human nature, and a corresponding decrease in the wants of man.

TABLE H.

Taken from the Official Report, 1885, of the Commissioner of Insurance, for the State of New York, showing the premium receipts of the companies and the payments made by them to policy-holders, from date of organization to December 31, 1884.

New York Companies.

COMPANIES.	Commenced Business.	Premiums Received.	Paid to Policy-holders.
Brooklyn............	July,....1864...	$ 7,913,119	$ 5,597,346
Equitable............	July,... 1859...	136,161,389	81,072,487
Germania............	July,....1860...	25,969,940	16,159,775
Home...............	May,....1860...	14,021,140	9,515,925
Homœopathic.........	July,... 1868...	2,571,789	1,552,515
Manhattan...	August, 1850...	29,014,748	22,490,777

New York Companies.—Continued.

COMPANIES.	Commenced Business.	Premiums Received.	Paid to Policy-Holders.
Metropolitan..........	June, ...1867.	15,156,465	7,944,381
Mutual.	February, 1843.	270,991,583	216,094,212
New York...	April, ...1845.	130,574,997	81,113,229
Provident Savings....	August, ..1875.	643,752	267,281
United States.........	March,....1850.	17,056,638	11,712,537
Washington	February, 1860.	19,291,397	12,208,136
Totals............	....	$669,366,957	

Companies of Other States.

COMPANIES.	Commenced Business.	Premiums Received.	Paid to Policy-holders.
Ætna, Conn..........	January ..1850	$ 74,025,954	$ 54,902,748
Berkshire, Mass.......	Septemb'r,1851	9,599,691	6,659,137
Connecticut General ..	October...1865	3,682,934	1,954,157
Connecticut Mutual...	December,1846	137,558,478	112,253,251
John Hancock, Mass.	December,1862	9,728,620	6,512.321
Massachusetts Mutual.	August...1851	20,468,729	13,798,910
Mutual Benefit, N. J..	April.... 1845	102,268,308	83,672,057
National, Vt.........	February, 1850	5,655,122	3,345,195
New Eng. Mutual,Mass	December,1843	46,761,729	37,094,909
Northwestern, Wis....	Novemb'r,1858	48,637,920	34,135,043
Penn, Pa.............	May......1847	21,792,638	14,145,150
Phœnix, Conn.........	May......1851	33,370,368	24,054,258
Provident, Pa.........	June......1865	13,566,667	5,876,384
Prudential, N. J... ..	January ..1876	3,406,539	912,539
State Mutual, Mass....	June 1845	6,160,362	4,216,727
Travelers, Conn.......	July......1866	10,244,262	3,967,313
Union Central, O.....	March....1867	6,343,073	3,149,994
Union Mutual, Me....	October ..1849	27,309,196	20,833,479
Totals		$ 580,580,590	$431,543,581
Grand Aggregates................		$1,249,947,547	$897,272,182

INTEREST.

Interest, in the sense of recompense for money lent, originated very early in the world's history. There are frequent allusions to it in the Scripture, under the title of "*usury*," which was the old English word for interest.

Robertson tells us that the fixed rate of interest in the 12th century was *twenty* per cent. In 1560 it was fixed in Spain, Germany, and Flanders, by the Emperor, Charles V., at *twelve* per cent. Not until the 15th century were *Christians* allowed to receive interest on money. Jews were the only usurers. The lowest rate of interest in Athens was *ten* per cent. per annum, and the highest *thirty-six* per cent. In Rome similarly exorbitant rates were exacted. About the year B. C. 346, the rate was limited to *five* per cent.; and five years later, the practice of taking interest for money was forbidden, altogether, and he who received more than he advanced was rendered liable to four-fold restitution. The earliest enactment upon the subject mentioned in English history, was A. D. 1197, *forbidding Christians to take interest for money*. In 1546, in the 37th year of the reign of Henry VIII., an Act was passed limiting the legal rate of interest, in England, to *ten* per cent. per annum, but it was repealed. May 1st., 1552. This last Act was entitled "*A Bill against Usurie.*" and re-enacted the prohibitions contained in previous Acts, with similar penalties. The Act of 1552, was in force until 1571, when the legal rate was fixed at *ten* per cent. This continued until 1624, when the rate was reduced to *eight* per cent., and the word "*interest*" was first used instead of *usury;* it was afterwards reduced to six per cent., and, in 1714 to *five* per cent., remaining so, with one or two exceptions, for a few years, when it was suspended and still remains so.

Most other countries have, at some period of their history, found it necessary to limit the rate of interest. In 1228 the rate was fixed, at Verona, at *twelve and one-half* per cent., per annum. In 1242, James I., King of Aragon, fixed it at *eighteen* per cent. In 1270 the legal rate at Modena was twenty per cent. There is an edict of Phillip Augustus, near this period (1272), limiting the Jews, in France, to forty-eight per cent! In 1311 Phillip IV. fixed the interest that might be legally exacted in the fairs of Champagne at twenty per cent. In 1336 the Republic of Florence borrowed money of individuals upon an assignment of taxes at fifteen per cent. In 1490, at Piacenza, the rate was as high as *forty* per cent. In 1491, *the first public sanction, by the Popes,* to the payment of interest, was given! The price of the Public Funds is perhaps the best criterion in any country, and has been taken as such by the most experienced writers on the subject. The Public Funds indicate the abundance or scarcity of money; are affected by war and peace, and by national prosperity or adversity. They may therefore be termed the national thermometer. As the price of the Public Funds goes down, the rate of interest rushes up. War and scarcity operate in this direction, and afford us another remarkable instance of the operation of the law of compensation. War and famine accelerate the rate of mortality, but they also improve the rate of interest, so it is probable that Assurance Offices with large accumulation of funds, realize, under such conditions, as much by *excess of interest* on their investments as they lose by the excess of mortality.

The relative effects of *simple* and *compound* interest may be seen in the following:

TABLE No. 2.

Rate per cent. per annum.	At simple interest it will double.	At compound interest it will double.
2	In 50 years	In 35 years
2½	" 40 "	" 28 "
3	" 33⅓ "	" 23½ "
3½	" 28½ "	" 20¼ "
4	" 25 "	" 17½ "
4½	" 22¼ "	" 15¾ "
5	" 20 "	" 14¼ "
6	" 16½ "	" 12 "
7	" 14¼ "	" 10¼ "
8	" 12½ "	" 9 "
9	" 9 "	" 8 "
10	" 10 "	" 7¼ "

Mr. Francis Bailey calculated, up to the year, 1810, that, if one penny had been put out at five per cent., *compound* interest, at the birth of Christ, it would have amounted to more money than could be expressed by 357 millions of Globes, each equal to the earth in magnitude, all of solid gold of standard quality, worth, at the mint price, three pounds, seventeen shillings and a half penny, per ounce; whereas, if the penny had been put out at the same rate, at *simple* interest, the amount in the same time would have been only *seven shillings and seven pence half penny!!* **Mr. Hillman** extended the calculation up to the end of the year, 1846, giving as the result, two thousand one hundred and seven millions, five hundred and thirty thousand, eight hundred and sixty-four worlds of solid gold! Supposing the diameter of the world to be 8,000 miles, these globes, placed in a straight line, would reach into space sixteen billions, eight hundred and sixty thousand two hundred and forty-six millions, nine hundred and twelve thousand miles, quantities too large for human comprehension. **(C. Walford—1867.)**

The practical advantage in saving and compounding, even *small* sums of money, for a term of years, is shown by the following:

Every man, at age 50, who has saved $1.25, per day since he was 21 years old, and compounded it, annually, at 4 per cent., is worth $25,000! 88 cents per day at 6 per cent.

Every man, at age 55, who has saved $1.51 per day, since he was 21 years old, and compounded it, annually, at 4 per cent., is worth $40,000! Only $1.00 per day, at 6 per cent:

Every man, at age 60, who has saved $1.75, per day, since he was 21 years old, and compounded it, annually, at 4 per cent., is worth $60,000!!

TABLE No. 3.

INTEREST LAWS OF THE STATES.

(From the Bankers' Almanac and Register.)

State.	Rate per cent. Legal.	Rate per cent. By special contract.	Penalty of Usury.
Alabama.....	8	....	Loss of interest.
Arizona......	10	6	None.
Arkansas....	6	10	Forfeiture of principal and interest.
California....	10	No limit	None.
Colorado.....	10	No limit	None. (8 per cent. allowed on town and county bonds.)
Connecticut..	6	6	None.
Dakota.......	7	12	Forfeiture of contract. (No limit in five counties named. (Act of Feb. 21, 1881.
Delaware.....	6	6	Forfeiture of contract.
Dist. of Columbia	6	10	Forfeiture of all interest.
Florida......	8	No limit	None.
Georgia......	7	8	Forfeiture of all interest.
Idaho........	*10	18	Forfeiture three times the excess of interest over 18 per cent. Act Feb. 21, 1879.
Illinois.	6	8	Forfeiture of all the interest.
Indiana.	6	8	Forfeiture of interest over 6 per cent
Iowa........	6	10	Forfeiture of interest and costs.
Kansas.......	7	12	Forfeiture of excess of interest over 12 per cent.
Kentucky.....	6	10	Forfeiture of excess of interest.
Louisiana....	5	8	Forfeiture of interest.
Maine........	6	No limit	None.
Maryland....	6	6	Forfeiture of excess interest.
Massachuset's	6	No limit	None. (Six per cent. and judgments.)
Michigan.....	7	10	Forfeiture of excess interest.
Minnesota...	7	10	Forfeiture of contract, if more than 10 per cent. is charged.
Mississippi...	6	10	Forfeiture of interest over 10 per cent
Missouri.....	6	10	Forfeiture of all interest
Montana.....	10	No limit	None.
Nebraska....	7	10	Forfeiture of all interest and costs.
Nevada......	10	No limit	None.
New Hampshire.....	6	6	Forfeiture 3 times excess of interest
New Jersey..	6	6	Forfeiture of all interest and costs.
New Mexico.	6	12	None.
New York...	6	6	Forfeiture of contract; $1,000 fine; 6 months' imprisonment.
North Carolina......	6	8	Forfeiture of double amount of interest.
Ohio.........	6	8	Forfeiture of excess interest.
Oregon......	10	12	Forfeiture of interest, principal and costs.

*Usurers liable to arrest for misdemeanor.

INTEREST LAWS.—Continued.

State.	Rate per cent.		Penalty of Usury.
	Legal.	By specia contract.	
Pennsylvania	6	6	Forfeiture of excess interest.—Act of May 28, 1858.
Rhode Island	†6	No limit	Forfeiture, unless a greater rate is contracted.
South Carolina......	6	10	Forfeiture of all interest.
Tennesee ...	7	6	Forfeiture excess interest over 6 per cent.
Texas........	8	12	Forfeiture of all interest.
Utah........	10	No limit	None.
Vermont	6	‡7	Forfeiture of excess interest.
Virginia	6	8	Forfeiture of excess interest.
Washington Territory	10	No limit	None.
West Virginia	6	6	Excess credited on sum due.
Wisconsin....	7	10	Forfeiture of all the interest.
Wyoming....	12	No limit	None.

†Rate on judgments unless otherwise expressed. ‡On Rail Road bonds only. a. On open accounts not more than six per cent., six months after delivery of last article. b. Any rate may be taken on loans exceeding $5,000, secured by warehouse receipts, bills of lading, etc.

EXPLANATION OF THE TABLES.

Table No. 1.—Col. (1) is made up as follows: The legal reserve, for instance, Actuaries' 4% on $1,000 of insurance, Ordinary Life Plan, issued at age 10, is $4.115 at the end of the first policy year. The present value of $4.115, for one year, 4 per cent. interest, is $3.96, and, therefore, this $3.96 at interest for one year—until end of first policy year—exactly equals the legal reserve at end of year. The $3.96 is the "Reserve Element" or germ, that produces the legal reserve, end of year. It is not the *legal reserve* at the beginning of the year—that is the net premium, or $10.43—but it is the "*Reserve Element*," as we call it. In a similar manner all the reserve elements at the different ages, from 10 to 99, inclusive, going to make up Col. (1), are produced.

Col. (2) is made up as follows: Confining ourselves to amount and kind of insurance, as above, and the age of entry, the net annual premium, as stated above, is $10.43. This is composed of the reserve element and the mortality element. The reserve element is $3.96, and, taking it from the net annual premium, $10.43, leaves $6.47, which is the mortality element. The other mortality elements are found in a similar manner, and all of them from age 10 to age 99, constitute Col. (2).

Col. (3) is found by adding Col. (1) to Col. (2), which, at age 10, gives $10.43, and taking one-third of it, $3.48, we have the expense element. Similarly with reference to all the other ages.

Col. (4) is columns (1), (2), and (3) added together. At age 10, it is $3.96+$6.47+$3.48, equals $13.91; and similarly with reference to all the ages from 10 to 99, inclusive. These three columns constitute the elements of the gross level premiums, *the first year*, for $1,000 of ordinary life insurance, at the ages named, when they are based on the Actuaries' Table of Mortality and 4 per cent. interest. The elements of other kinds of premiums—Limited-payment Life, Endowment, etc., etc.—may be ascertained in a similar manner by using the reserve end first policy year, net premium, etc., etc., applicable to these several kinds of insurance.

Table No. 1½.—Col. (1) is identical with Col. (6), Table No. 16, and is ascertained by mathematical calculations. Col (2) is one-third of Col. (1). Col. (3) is columns (1) and (2) added together. It is the net natural premium loaded thirty-three and one-third per cent.

Table No. 2.—No explanation required.

Table No. 3.—No explanation required.

Table No. 4.—*Required the amount of $1.00 per annum, at 3 per cent., simple interest, for five years.* One dollar is on interest for five years; one for four; one for three; one for two, and one for *one* year. The interest on the first dollar invested is three cents per year for five years, amounting to 15 cents. The interest on the second dollar invested is 3 cents per year for 4 years, amounting to 12 cents. The interest on the third dollar amounts to 9 cents; on the fourth dollar, 6 cents; and on the fifth dollar, 3 cents. These different sums—15 cents, 12 cents, 9 cents, 6 cents and 3 cents—added together amount to 45 cents, which added to the principle—$5.00—gives $5.45. The same result would be ascertained in Col. (1) at the right hand of (5) in the year column, *at a glance;* and similarly with reference to any other rate of interest, for any time, named in the table. To ascertain the amount of $100, $500, or any other sum, first find the amount of $1.00 by the table, and then multiply this by the number of dollars.

Table No. 5.—*What will $1.00 amount to, compounded, annually, at 6 per cent. interest, in 30 years?* By looking at Col. (6), in the table opposite (30) in the year column, we find $5.74, the answer. For 40 years, it amounts to $10.29, and so on. For other rates, times and amounts, first ascertain the amount of

$1.00 by the table, and then multiply this result by the number of dollars.

Table No. 6.—*What will $1.00 per annum amount to, compounded, annually, at 6 per cent. interest, in 30 years?* In Col. (6) of the Table opposite (30) in the year column, we find $83.80 the answer; $40 per annum thus compounded would amount to 40 times $83.80, or $3,352, and similarly with reference to other amounts, at other rates of interest for a longer or shorter time.

Table No. 7.—*How much will $1.00 per annum, for 10 years, compounded, annually, at 5 per cent. interest, amount to in 40 years?* In Col. (5), opposite (40) in the year column, we find $57.08 the answer. $80 per annum thus invested would amount to eighty times $57.08, or, $4,566.40, and similarly with reference to other amounts and rates for a longer or shorter time. The annual investment in this table, whatever it may be, terminates at the end of the first ten years; but the *compounding* continues until the end of the time designated.

Table No. 8.—*How much will $1.00 per annum for 15 years, compounded annually, at 4 per cent. interest, amount to in 30 years?* In Col. (4) opposite (30) in the year column, we find $37.50 the answer. $100 per annum thus invested would amount to 100 times $37.50, or $3,750, and similarly with reference to other amounts and rates, for a longer or shorter time.

Table No. 9.—*What will $1.00 per annum for 20 years, compounded, annually, at 6 per cent. per annum, amount to in 40 years?* In Col. (6) opposite (40) in the year column, we find $125.05 the answer. $90 per annum thus invested would amount to 90 times $125.05, or $11,254.50, and similarly with reference to other amounts and rates of interest, for a longer or shorter time.

Table No. 10.—*If $1.00 be due and payable 40 years hence, and money will earn 4 per cent. per annum, compound interest, during that time, what is the present value of the dollar?* In Col. (3), opposite (40) in the year column, we find $.2083—nearly 21 cents—the answer; that is to say 21 cents invested 40 years, and made to earn 4 per cent. compound interest, annually, will just exactly amount to the $1 in 40 years. Twenty-one cents paid down to-day, or $1 paid in 40 years from now, are equivalent sums, if money be worth 4 per cent. per annum *compound* interest. The present value of $50 would be 50 times $.2083, or $10.415.

Table No. 11.—*What is a contract, requiring the payment of $1 at the end of every year for the next 40 years, worth, now, assuming money to be worth 5 per cent. compound interest?* In Col. (5) opposite (40) in the year column, we find $17.1591 the answer. In other words $17.1591, paid down in one sum is equivalent to the payment of $1 at the end of every year for 40 years. Compare Table No. 11 with Table No. 6.

Table No. 12.—*How much money must be invested every year, and compounded, annually, at 6 per cent., to amount to $50,000 in 25 years?* In Col. (6) opposite (25) in the year column, we find $17.20. This is the uniform annual investment requisite to produce $1,000, at the rate and for the time assumed. To produce $50,000, the annual investment must therefore be 50 times $17.20, or $860, the answer.

Table No. 13.—*How much money must be invested, every year, for 10 years, only, and compounded, annually, at 6 per cent. interest, to amount to $1,000 in 20 years, from beginning of the investing period?* In Col. (6) opposite (20) in the year column, we find $39.97 the answer. To produce $50,000, multiply the $39.97 by 50, making $1,998 50; and similarly with reference to any other amounts, and rates of interest.

Table No. 14.—*How much money must be invested, every year, for 15 years, only, and compounded, annually, at 4 per cent. interest, to amount to $1,000 in 30 years, from the beginning of investing period?* In Col. (4) opposite (30) in the year column we find $26.66, the answer. To produce $10,000 the annual investment must be ten times $26.66, and similarly with reference to other amounts.

Table No. 15.—*How much money must be invested, every year, for 20 years, only. and compounded, annually, at 8 per cent. interest, to amount to $1,000 in 33 years?* In Col. (8) opposite (33) in the year column, we find $7.44, the answer, and similarly with reference to other amounts, etc.

Table No. 16.—This is the celebrated Actuaries' Table of Mortality, the history of which has been given in another part of this book, with several other columns added. Columns (1) and (2) constitute the table, *proper*. Col. (3) is obtained by dividing the number in Col. (2) opposite each age by the number in Col. (1) opposite the same age. Col. (1) represents 100,000 persons *living* at age 10, at the *beginning* of the year, and Col. (2) shows that 676 of them *died during* the year. 99,324 lived to be 11 years old, but 674 of them died before they became 12 years old, and so on, until they *all died*, only one single person of the 100,000 at age 10 reaching the age of 99, and he dies before attaining the age of 100!

Column (3) is *very instructive*. It shows that at age 20, over *seven* persons die during a year out of 1,000 living at the beginning of the same year; at age 25, nearly *eight* die; at 30, nearly *eight and one-half;* at 35, more than *nine and one-quarter;* at 40, more than *ten and one-third;* at 45, nearly *twelve and one-quarter;*

at 50, nearly *sixteen;* at 55, nearly *twenty-two;* at 60, over *thirty;* at 65, over *forty-four;* at 70, nearly *sixty-five;* at 75, over *ninety-five;* at 80, over *one hundred and forty;* at 85, over *two hundred and five;* at 90, nearly *three hundred and twenty-four;* at 95, over *five hundred and eighty-four;* and, at age 99, **one thousand persons die during the year out of one thousand living at the beginning of the year.** Taking the same number of persons at each of the ages, and noting the comparative number of deaths; we find that more than twice as many die at 50 as at 25; more than twice as many at 61 as at 50; nearly twice as many at 70 as at 61; more than twice as many at 80 as at 70, and so on. The per cent. of deaths increases very rapidly after 55, when many of our assessment companies cease grading their rates, if, indeed, they grade them at all after entry!

Column (4) gives the expectation of life at the different ages. For example, at age 10, the average of after life is 48 years and 36-100 of a year; at age 32, it is about thirty-three years, and so on.

Column (5) gives the *net* level annual premiums for insuring $1,000 for life, at the different ages. These premiums loaded from twenty-five to forty per cent., varying with different companies, constitute the table rates found in the rate books of Level Premium Companies, for $1,000 of ordinary life insurance.

Column (6) gives the natural premiums at the different ages. This column is the basis of rates for the Natural Premium Companies, and the better class of Assessment Associations, of which much has been said in previous pages.

Table No. 17.—Remarks similar to those made with reference to Table No. 16 can be appropriately made with reference to this table. Both tables are very extensively used.

Table No. 18.—Fully explained.

Table No. 19.—Fully explained and frequently referred to in other pages.

Other Tables, A, B, C, D, etc., etc., are used in explanation of facts and principles stated, and are readily understood in the application thus made of them.

TABLES.

TABLE

Showing the elements of which a Level An-
composed, based on the Actuaries' Table

AGE.	Reserve element.	Mortality element.	Expense element.	Gross Level premium.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
10	$3.96	$6.47	$3.48	$13.91
11	4 13	6.50	3.54	14.17
12	4.32	6.52	3.61	14.45
13	4.51	6.56	3.69	14.76
14	4.70	6.60	3.77	15.07
15	4.90	6.64	3.85	15.39
16	5.10	6.70	3.93	15.73
17	5.31	6.76	4.02	16.09
18	5.54	6.81	4.12	16.47
19	5.76	6.88	4.22	16.86
20	5.98	6.97	4.32	17.27
21	6.20	7.07	4.43	17.70
22	6.48	7.13	4.54	18 15
23	6.74	7.22	4.66	18.62
24	7.02	7.31	4.78	19.11
25	7.31	7.41	4.91	19.63
26	7.61	7.52	5.04	20.17
27	7.92	7.64	5.18	20.74
28	8.25	7.76	5.33	21.34
29	8.59	7.89	5.49	21.97
30	8.95	8.02	5.66	22.63
31	9.34	8.15	5.83	23.32
32	9.72	8.32	6.01	24.05
33	10.13	8.49	6.20	24.82
34	10.50	8.73	6.40	25.63
35	11.04	8.83	6.62	26.49
36	11.53	9.01	6.85	27.39
37	12.07	9.19	7.09	28.35
38	12.62	9.40	7.34	29.36
39	13.22	9.60	7.61	30.43
40	13.86	9.82	7.89	31.57
41	14.54	10.05	8.19	32.78
42	15.25	10.30	8.52	34.07
43	15.95	10.64	8.86	35.45
44	16.63	11.05	9.23	36.91
45	17.31	11.54	9.61	38.46
46	17.97	12.11	10.03	40.11
47	18.64	12.75	10.46	41.85
48	19.33	13.44	10.92	43.69
49	20.06	14.17	11.41	45.64
50	20.78	15.00	11.92	47.70
51	21.53	15.89	12.47	49.89
52	22.29	16.86	13.06	52.21
53	23.08	17·92	13.66	54.66
54	23.90	19.05	14.32	57.27

For explanation, see page 196.

No. 1.

nual Life Premium for $1,000 of Insurance is of Mortality, and 4 per cent. interest.

AGE.	Reserve element.	Mortality element.	Expense element.	Gross Level Premium.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
55	$24.73	$20.30	$15 01	$ 60.04
56	25.59	21.64	15.75	62.98
57	26.50	23.07	16.53	66.10
58	27.42	24.65	17.35	69.42
59	28.37	26.35	18.25	72.97
60	29.27	28.29	19.19	76.75
61	30.20	30.37	20.19	80.76
62	31.11	32.67	21.26	85.04
63	32.03	35.17	22.40	89.60
64	32.93	37.91	23.61	94.45
65	33.84	40.88	24.90	99.62
66	34.70	44.15	26.28	105.13
67	35.58	47.66	27.74	110.98
68	36.45	51.46	29.31	117.22
69	37.36	55.53	30.97	123.86
70	38.25	59.95	32.74	130.94
71	39.15	64.72	34.62	138.49
72	40.06	69.85	36.64	146.55
73	40.97	75.39	38.79	155.15
74	41.89	81.36	41.08	164.33
75	42.82	87.79	43.54	174.15
76	43.80	94.69	46.16	184.65
77	44.75	102.19	48.95	195.89
78	45.67	110.31	51.99	207.97
79	44.69	118.99	55.23	220.91
80	47.80	128.60	58.70	234.80
81	49.16	138.16	62.44	249.76
82	50.87	148.62	66.49	265.98
83	52.95	159.83	70.93	283.71
84	55.58	171.84	75.81	303.23
85	58.53	185.20	81.24	324.97
86	61.87	200.16	87.34	349.37
87	65.68	217.01	94.23	376.62
88	69.62	236.61	102.08	408.31
89	73.50	259.65	111.05	444.20
90	77.70	286.20	121.30	485.20
91	81.76	317.51	133.09	532.36
92	84.54	355.41	146.65	586.59
93	85.54	400.53	162.02	648.09
94	84.43	452.86	179.09	716.38
95	74.38	519.05	197.57	790.28
96	62.38	583.24	215.21	860.83
97	89.04	604.04	231.03	924.11
98	186.34	581.40	255.91	1,023.65
99	961.54		320.51	1,282.05

For explanation, see page 196.

TABLE

Showing the elements of which a Natural
based on the Actuaries' Table of

Age.	Mortality element.	Expense element.	Gross Natural Premiums.
	Col. 1.	Col. 2.	Col. 3.
10	$6.50	$2.17	$ 8.67
11	6.53	2.18	8.71
12	6.55	2.19	8.74
13	6.59	2.20	8.79
14	6.63	2.21	8.84
15	6.68	2.23	8.91
16	6.73	2.24	8.97
17	6.79	2.26	9.05
18	6.86	3.29	9.15
19	6.93	2.31	9.24
20	7.01	2.34	9.35
21	7.09	2.36	9.45
22	7.18	2.39	9.57
23	7.27	2.42	9.69
24	7.37	2.46	9.83
25	7.47	2.49	9.96
26	7.58	2.53	10.11
27	7.70	2.57	10.27
28	7.83	2.61	10.44
29	7.96	2.65	10.61
30	8.10	2.70	10.80
31	8.25	2.75	11.00
32	8.41	2.80	11.21
33	8.58	2.86	11.44
34	8.75	2.92	11.67
35	8.93	2.98	11.91
36	9.12	3.04	12.16
37	9.31	3.10	12.41
38	9.53	3.18	12.71
39	9.74	3.25	12.99
40	9.95	3.32	13.28
41	10.20	3.40	13.60
42	10.48	3.49	13.97
43	10.82	3.61	14.43
44	11.25	3.74	15.00
45	11.74	3.91	15.65
46	12.35	4.12	16.47
47	13.00	4.33	17.33
48	13.71	4.57	18.28
40	14.48	4.83	19.31
50	15.33	5.11	20.44
51	16.25	5.42	21.67
52	17.26	5.75	23.01
53	18.36	6.12	24.48
54	19.53	6.51	26.04

For explanation, see page 197.

No. 1½.

Annual Life Premium for $1,000 is composed, Mortality, and 4 per cent. interest.

AGE.	Mortality element.	Expense element.	Gross Natural Premium.
	Col. 1.	Col. 2.	Col. 3.
55	$20.83	$6.91	$27.77
56	22.24	7.41	29.65
57	23.73	7.91	31.64
58	25.37	8.46	33.83
59	27.16	9.05	36 21
60	29.17	9.72	38.89
61	31.36	10.45	41.81
62	33.77	11.26	45.03
63	36.38	12.13	48.51
64	39.26	13.09	52.35
65	42.39	14.13	56.52
66	45.78	15.26	61.04
67	49.49	16.49	65.98
68	53.49	17.83	71.32
69	57.78	19.26	77.04
70	62.44	20.81	83.25
71	67.46	22.49	89.95
72	72.89	24.29	97.18
73	78.73	26.24	104.97
74	85.07	28.36	113.43
75	91.89	30.63	122.52
76	99.21	33.07	132.28
77	107.18	35.73	142.91
78	115.81	38.60	154.41
79	125.06	41.69	166.75
80	135.01	45.00	180.01
81	145.61	46.40	192.01
82	156.92	52.31	209.23
83	169.15	56.38	225.53
84	182.38	60.79	243.17
85	197.21	65.74	262.95
86	213.92	71.31	285.23
87	232.92	77.64	310.56
88	255.07	85.02	340.09
89	281.14	93.71	374.85
90	311.28	103.76	415.04
91	347.10	115.70	462.80
92	389.68	129.89	519.57
93	439.64	146.55	586.19
94	496.45	165.48	661.93
95	561.80	187.27	749.07
96	623.70	207.90	831.60
97	665.68	221.89	887.57
98	721.15	240.38	961.53
99	961.54	320.51	1,282.05

For explanation, see page 197.

TABLE

Showing how much $1.00 per annum from 1 to

Years.	3 Per cent. Col 1.	4 Per cent. Col. 2.	5 Per cent. Col. 3.	6 Per cent. Col. 4.
1	$1.03	$1.04	$1.05	$1.06
2	2.09	2.12	2.15	2.18
3	3.18	3.24	3.30	3.36
4	4.30	4.40	4.50	4.60
5	5.45	5.60	5.75	5.90
6	6.63	6.84	7.05	7.26
7	7.84	8.12	8.40	8.68
8	9.08	9.44	9.80	10.16
9	10.35	10.80	11.25	11.70
10	11.65	12.20	12.75	13.30
11	12.98	13.64	14.30	14.96
12	14.34	15.12	15.90	16.68
13	15.73	16.64	17.55	18.46
14	17.15	18.20	19.25	20.30
15	18.60	19.80	21.00	22.20
16	20.08	21.44	22.80	24.16
17	21.59	23.12	24.65	26.18
18	23.13	24.84	26.55	28.26
19	24.70	26.60	28 50	30.40
20	26.30	28.40	30.50	32.60
21	27.93	30.24	32.55	34.86
22	29.59	32.12	34.65	37.18
23	31.28	34.04	36.80	39.56
24	33.00	36.00	39.00	42.00
25	34.75	38.00	41.25	44.50
26	36.53	40.04	43.55	47.06
27	38.34	42.12	45.90	49.68
28	40.18	44.24	48.30	52.36
29	42.05	46.40	50.75	55.10
30	43.95	48.60	53.25	57.90
31	45.88	50.84	55.80	60.76
32	47.84	53.12	58.40	63.68
33	49.83	55.44	61.05	66.66
34	51.85	57.80	63.75	69.70
35	53.90	60.20	66.50	72.80
36	55.98	62.64	69.30	75.96
37	58.09	65.12	72.15	79.18
38	60.23	67.64	75.05	82.46
39	62.40	70.20	78.00	85.80
40	64.60	72.80	81.00	89.20
41	66.83	75.44	84.05	92.66
42	69.09	78.12	87.15	96.18
43	71.38	80.84	90.30	99.76
44	73.70	83.60	93.50	103.40
45	76.05	86.40	96.75	107.10
46	78.43	89.24	100.05	110.86
47	80.84	92.12	103.40	114.68
48	83.28	95.04	106.80	118 56
49	85.75	98.00	110.25	122.50
50	88.25	101.00	113.75	126.50

For explanation, see page 197.

No. 4.

will amount to, at Simple Interest, in 50 Years.

7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 5.	Col. 6.	Col. 7.	Col. 8.	
$1.07	$1.08	$1.09	$1.10	1
2.21	2.24	2.27	2.30	2
3.42	3.48	3.54	3.60	3
4.70	4.80	4.90	5.00	4
6.05	6.20	6.35	6.50	5
7.47	7.68	7.89	8.10	6
8.96	9.24	9.52	9.80	7
10.52	10.88	11.24	11.60	8
12.15	12.60	13.05	13.50	9
13.85	14.40	14.95	15.50	10
15.62	16.28	16.94	17.60	11
17.46	18.24	19.02	19.80	12
19.37	20.28	21.19	22.10	13
21.35	22.40	23.45	24.50	14
23.40	24.60	25.80	27.00	15
25.52	26.88	28.24	29.60	16
27.71	29.24	30.77	32.30	17
29.97	31.68	33.39	35.10	18
32.30	34.20	36.10	38.00	19
34.70	36.80	38.90	41.00	20
37.17	39.48	41.79	44.10	21
39.71	42.24	44.77	47.30	22
42.32	45.08	47.84	50.60	23
45.00	48.00	51.00	54.00	24
47.75	51.00	54.25	57.50	25
50.57	54.08	57.59	61.10	26
53.46	57.24	61.03	64.80	27
56.42	60.48	64.54	68.60	28
59.45	63.80	68.15	72.50	29
62.55	67.20	71.85	76.50	30
65.72	70.68	75.64	80.60	31
68.96	74.24	79.52	84.80	32
72.27	77.88	83.49	89.10	33
75.65	81.60	87.55	93.50	34
79.10	85.40	91.70	98.00	35
82.62	89.28	95.94	102.60	36
86.21	93.24	100.27	107.30	37
89.87	97.28	104.69	112.10	38
93.60	101.40	109.20	117.00	39
97.40	105.60	113.80	122.00	40
101.27	109.88	118.49	127.10	41
105.21	114.24	123.27	132.30	42
109.22	118.68	128.14	137.60	43
113.30	123.20	133.10	143.00	44
117.45	127.80	138.15	148.50	45
121.67	132.48	143.29	154.10	46
125.96	137.24	148.52	159.80	47
130.32	142.08	153.84	165.60	48
134.75	147.00	159.25	171.50	49
139.25	152.00	164.75	177.50	50

For explanation, see page 197.

TABLE

Showing how much $1.00 will amount

Years.	3 Per cent. Col. 1.	3½ Per cent. Col. 2.	4 Per cent. Col. 3.	4½ Per cent. Col. 4.	5 Per cent. Col. 5.
1	$1.030	$1.035	$1.040	$1.045	$1.050
2	1.061	1.071	1.082	1.092	1.103
3	1.093	1.109	1.125	1.141	1.158
4	1.126	1.148	1.170	1.193	1.216
5	1.159	1.188	1.217	1.246	1.276
6	1.194	1.229	1.265	1.302	1.340
7	1.230	1.272	1.316	1.361	1.407
8	1.267	1.317	1.369	1.422	1.478
9	1.305	1.363	1.423	1.486	1.551
10	1 344	1.411	1.480	1.553	1.629
11	1.384	1.460	1.540	1.623	1.710
12	1.426	1.511	1.601	1.696	1.796
13	1.469	1.564	1.665	1.772	1.886
14	1.513	1.619	1.732	1.852	1.980
15	1.558	1.675	1.801	1.935	2.079
16	1.605	1.734	1.873	2.022	2.183
17	1.653	1.795	1.948	2.113	2.292
18	1.702	1.858	2.026	2.209	2.407
19	1.754	1.923	2.107	2.308	2.527
20	1.806	1.990	2.191	2.412	2.653
21	1.860	2.059	2.279	2.520	2.786
22	1.916	2.132	2.370	2.634	2.925
23	1.974	2.206	2.465	2.752	3.072
34	2.033	2.283	2.563	2.876	3.225
25	2.094	2.363	2.666	3.005	3.386
26	2.157	2.446	2.773	3.141	3.556
27	2.221	2.532	2.883	3.282	3.734
28	2.288	2.620	2.999	3.430	3.920
29	2.357	2.712	3.119	3.584	4.116
30	2.427	2.807	3.243	3.745	4.322
31	2.500	2.905	3.373	3.914	4.538
32	2.575	3.007	3.508	4.090	4.765
33	2.652	3.112	3.648	4.274	5.003
34	2.732	3.221	3.794	4.466	5.253
35	2.814	3.334	3.946	4.667	5.516
36	2.898	3.450	4.104	4.877	5.792
37	2.985	3.571	4.268	5.097	6.081
38	3.075	3.696	4.439	5.326	6.386
39	3.167	3.825	4.616	5.566	6.705
40	3.262	3.959	4.801	5.816	7.040
41	3.360	4.098	4.993	6.078	7.392
42	3.461	4.241	5.193	6.352	7.762
43	3.565	4.390	5.401	6.637	8.150
44	3.672	4 543	5·617	6.936	8.557
45	3.782	4.702	5.841	7.248	8.985
46	3.895	4.867	6.075	7.574	9.434
47	4.012	5.037	6.318	7.915	9.906
48	4.132	5.214	6.571	8.272	10.401
49	4.256	5.396	6.833	8.644	10.921
50	4.384	5.585	7.107	9.033	11.467

For explanation, see page 197.

No. 5.

to compounded annually, for 1 to 50 years.

6 Per cent.	7 Per cen .	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
$1.060	$ 1.070	$ 1.080	$ 1.090	$ 1.100	1
1.124	1.145	1.166	1.188	1.210	2
1.191	1.225	1.260	1.295	1.331	3
1.263	1.311	1.361	1.412	1.464	4
1.338	1.403	1.469	1.539	1.611	5
1.419	1.501	1.587	1.677	1.772	6
1.504	1.606	1.714	1.828	1.949	7
1.594	1.718	1.851	1.993	2.144	8
1.690	1.839	1.999	2.172	2.358	9
1.791	1.967	2.159	2.367	2.594	10
1.898	2.105	2.332	2.580	2.853	11
2.012	2.252	2.518	2.813	3.138	12
2.133	2.410	2.720	3.066	3.452	13
2.261	2.579	2.937	3.342	3.798	14
2.397	2.759	3.172	3.643	4.177	15
2.540	2.952	3.426	3.970	4.595	16
2.693	3.159	3.700	4.328	5.055	17
2.854	3.380	3.996	4.717	5.560	18
3.026	3.617	4.316	5.142	6.116	19
3.207	3.870	4.661	5.604	6.728	20
3.400	4.141	5.034	6.109	7.400	21
3.604	4.430	5.437	6.659	8.140	22
3.820	4.741	5.872	7.258	8.954	23
4.049	5.072	6.341	7.911	9.850	24
4.292	5.427	6.849	8.623	10.835	25
4.549	5.807	7.396	9.399	11 918	26
4.822	6.214	7.988	10.245	13.110	27
5.112	6.649	8.627	11.167	14.421	28
5.418	7.114	9.317	12.172	15.863	29
5.744	7.612	10.063	13.268	17.449	30
6.088	8.145	10.868	14.462	19.194	31
6.453	8.715	11.737	15.763	21.114	32
6.841	9.325	12.676	17.182	23.225	33
7.251	9.978	13.690	18.728	25.548	34
7.686	10.677	14.785	20.414	28.102	35
8.147	11.424	15.968	22.251	30.913	36
8.636	12.224	17.246	24.254	34.004	37
9.154	13.079	18.625	26.437	37.404	38
9.704	13.995	20.115	28.816	41.145	39
10.286	14.975	21 725	31.409	45.259	40
10.903	16.023	23.463	34.236	49.785	41
11.557	17.144	25.340	37.318	54.764	42
12.251	18.344	27.367	40.676	60.240	43
12.986	19.629	29.556	44.337	66.264	44
13.765	21.003	31.920	48.327	72.891	45
14.591	22.473	34.474	52.677	80.180	46
15.466	24.046	37.232	57.418	88.198	47
16.394	25.729	40.211	62.585	97.017	48
17.378	27.530	43.427	68.218	106.719	49
18.420	29.457	46.902	74.358	117.391	50

For explanation, see page 197.

TABLE

Showing how much $1.00 per annum annually for

Years.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col 5.
1	1.030	1.035	1.040	1.045	1.050
2	2.091	2.106	2.122	2.137	2.153
3	3.184	3.215	3 247	3.278	3.310
4	4.309	4.363	4.416	4.471	4.526
5	5.468	5.550	5.633	5.717	5.802
6	6.663	6 779	6.898	7.019	7.142
7	7.892	8.052	8.214	8.380	8.549
8	9.159	9.369	9.583	9.802	10.027
9	10.464	10.731	11.006	11.288	11.578
10	11.808	12.142	12.486	12.841	13.207
11	13.192	13.602	14.026	14.464	14.917
12	14.618	15.113	15.627	16.160	16.713
13	16.086	16.677	17.292	17.932	18.599
14	17.599	18.296	19.024	19.784	20,579
15	19.157	19.971	20.825	21.719	22.658
16	20.762	21.705	22.698	23.742	24.840
17	22.414	23.500	24.645	25.855	27.132
18	24.117	25.357	26.671	28.064	29.539
19	25.870	27.280	28.778	30.371	32.066
20	27.677	29.270	30.969	32.783	34.719
21	29.537	31.329	33.248	35.303	37.505
22	31.453	33.460	35.618	37.937	40.431
23	33.427	35.667	38.083	40.689	43.502
24	35.459	37.950	40.646	43.565	46.727
25	37.553	40.313	43.312	46 571	50.114
26	39.710	42.759	46.084	49.711	53.669
27	41.931	45.291	48.968	52.993	57.403
28	44.219	47.911	51.966	56.423	61.323
29	46.575	50.623	55.085	60.007	65.439
30	49.003	53 430	58.328	63.752	69.761
31	51.503	56.335	61.702	67.666	74.299
32	54.078	59.341	65.210	71.756	79.064
33	56.730	62.453	68.858	76.030	84.067
34	59.462	65.674	72.652	80.497	89.320
35	62.276	69.008	76.598	85.164	94.836
36	65.174	72.458	80.702	90.041	100.628
37	68.159	76.029	84.970	95.138	106.710
38	71.234	79.725	89.409	100.464	113.095
39	74.401	83.550	94.026	106.030	119.800
40	77.663	87.510	98.827	111.847	126.840
41	81.023	91.607	103.820	117.925	134.232
42	84.484	95.849	109.012	124.276	141.993
43	88.048	100.238	114.413	130.914	150.143
44	91.720	104.782	120.029	137.850	158.700
45	95.502	109.484	125.871	145.098	167.685
46	99.397	114.351	131.945	152 673	177.119
47	103.408	119.388	138.263	160.588	187.025
48	107.541	124.602	144.834	168.859	197.427
49	111.797	129.998	151.667	177.503	208.348
50	116.182	135.583	159.274	186.536	219.815

For explanation, see page 198.

No. 6.

will amount to, compounded,
1 to 50 years.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
1.060	1.070	1.080	1.090	1.100	1
2 184	2.215	2.246	2.278	2.310	2
3.375	3.440	3.506	3.573	3.641	3
4.637	4.751	4.867	4.985	5.105	4
5.975	6.153	6.336	6,523	6.716	5
7.394	7.654	7.923	8.200	8.487	6
8.898	9.260	9.637	10.029	10.436	7
10.491	10.978	11.488	12.021	12.580	8
12.181	12.816	13.487	14.193	14.937	9
13.972	14.784	15.646	16.560	17.531	10
15.870	16.889	17.977	19.141	20.384	11
17.882	19.141	20.495	21.953	23.523	12
20.015	21.551	23.215	25.019	26.975	13
22.276	24.129	26.152	28.361	30 773	14
24.673	26.888	29.324	32.003	34.950	15
27.213	29.840	32.750	35.974	39.545	16
29.906	32.999	36.450	40.301	44.599	17
32.760	36.379	40.446	45.019	50.159	18
35.786	39.996	44.762	50.160	56.275	19
38.993	43.865	49.423	55.765	63.003	20
42.392	48.006	54.457	61.873	70.403	21
45.996	52.436	59.893	68.532	78.543	22
49.816	57.177	65.765	75.790	87.497	23
53.865	62.249	72.106	83.701	97.347	24
58.156	67.677	78.954	92.324	108.182	25
62.706	73.484	86.351	101.723	120.100	26
67.528	79.698	94.339	111.968	133.210	27
72.640	86.347	102.966	123.135	147.631	28
78.058	93.461	112.283	135.308	163.494	29
83.802	101.073	122.346	148.575	180.943	30
89.890	109.218	133.214	163.037	200.138	31
96.343	117.933	144.951	178.800	221.252	32
103.184	127.259	157.627	195.982	244.477	33
110.435	137.237	171.317	214.711	270.024	34
118.121	147.914	186.102	235.125	298.127	35
126.268	159.337	202.070	257.376	329.040	36
134.904	171.561	219.316	281.630	363.043	37
144.059	184.640	237.941	308.067	400.448	38
153 762	198.635	258.057	336.882	441.593	39
164.048	213.610	279.781	368.292	486.852	40
174.951	229.632	303.244	402.528	536.637	41
186 508	246.777	328.583	439.846	591.401	42
198.758	265.121	355.950	480.522	651.641	43
211.744	284.749	385.506	524.859	717.905	44
225.508	305.752	417.426	573.186	790.795	45
240.099	328.224	451.900	625.863	870.975	46
255.565	352.270	489.132	683.280	959.172	47
271.958	377.999	529.343	745.866	1,056.190	48
289.336	405.529	572.770	814.084	1,162.909	49
307.756	434.986	619.672	888.441	1,280.299	50

For explanation, see page 198.

TABI

Showing how much $1.00 per annum,
annually

YEARS.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per c
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col
11	12.16	12.57	12.99	13.42	13.
12	12.58	13.00	13.51	14.02	14.
13	12.90	13.46	14.05	14.65	15.
14	13.29	13.93	14.61	15.31	16.
15	13.69	14.42	15.19	16.00	16
16	14.10	14.93	15.80	16.72	17
17	14.52	15.45	16.43	17.48	18.
18	14.96	15.99	17.09	18.26	19
19	15.41	16.55	17.77	19.08	20
20	15.87	17.13	18.48	19.94	21
21	16.34	17.73	19.22	20.84	22
22	16.84	18.35	19.99	21.78	23
23	17.34	18.99	20.79	22.76	25
24	17.86	19.65	21.62	23.78	26
25	18.40	20.34	22.49	24.85	27
26	18.95	21.05	23.39	25.97	28
27	19.52	21.79	24.32	27.14	30
28	20.10	22.55	25.29	28.36	31
29	20.71	23.34	26.31	29.64	33
30	21.33	24.16	27.36	30.97	3[illegible]
31	21.97	25.01	28.45	32.36	3
32	22.62	25.88	29.59	33.82	[illegible]
33	23.30	26.79	30.78	35.34	[illegible]
34	24.00	27.72	32.00	36.93	
35	24.72	28.69	33.29	38.59	
36	25.46	29.70	34.62	40.33	
37	26.23	30.74	36.00	42.14	
38	27.02	31.81	37.44	44.04	
39	27.82	32.93	38.94	46.02	
40	28.67	34.08	40.50	48.09	
41	29.52	35.27	42.12	50.26	
42	30.41	36.51	43.80	52.52	
43	31.32	37.78	45.56	54.88	
44	32.26	39.11	47.38	57.35	
45	33.23	40.48	49.27	59.93	
46	34.22	41.89	51.24	62.63	
47	35.25	43.36	53.29	65.45	
48	36.31	44.88	55.42	68.39	
49	37.40	46.45	57.64	71.47	
50	38.52	48.07	59.95	74.69	

For explanation, see page 198.

No. 7.

10 years, will amount to compounded 11 to 50 years.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
14.81	15.82	16.90	18.05	19 28	11
15.70	16.93	18.25	19.67	21.21	12
16.64	18.11	19.71	21.45	23.33	13
17.64	19.38	21.29	23.38	25.67	14
18.70	20.74	22.99	25.48	28.23	15
19.82	22.19	24.83	27.77	31.06	16
21.01	23.74	26.81	30.27	34.16	17
22.17	25.40	28.96	33.00	37.58	18
23.61	27.18	31.28	35.97	41.34	19
25.02	29.08	33.78	39.20	45.47	20
26.52	32.75	36.48	42.73	50.02	21
28.11	33.30	39.40	46.58	55.01	22
29.80	35.63	42.55	50.77	60.52	23
31.59	38.12	45.95	55.34	66.57	24
33.48	40.79	49.63	60.32	73.23	25
34.98	43.64	53.60	65.74	80.56	26
37.62	46.70	57.89	71.67	88.61	27
39 88	49.97	62.52	78.11	97.47	28
42.27	53.46	67.52	85.15	107.20	29
44.81	57.21	72.92	92.80	117.94	30
47.50	61.21	78.76	101.16	129.73	31
50.35	65.50	85.06	110.27	142.70	32
53.37	70.08	91.86	120.19	156.90	33
56.57	74.99	99.21	131.01	172.68	34
59.86	80.24	107.15	142.80	189.95	35
63.56	85.85	115.72	155.65	208.94	36
67.38	91.86	124.99	169.66	229.83	37
71.42	98.29	134.98	184.93	252.80	38
75.70	105.17	145.77	201.54	278.05	39
80.25	112.54	157.44	219.72	305.90	40
85.17	120.41	170.03	239.46	336.49	41
90.16	128.84	183.63	260.99	370.08	42
95.57	137.86	198.32	284.51	407.16	43
101.31	147.51	214.19	310.14	447.88	44
107.39	157.84	231.32	338.06	492.63	45
113.83	168.89	249.83	368.47	541.71	46
120.66	180.71	269.82	401.59	596.06	47
127.90	193.36	291.40	437.79	655.67	48
135.57	206.89	314.71	477.20	721 23	49
143.71	221.38	339.89	520.14	793.45	50

For explanation, see page 198.

TABLE

Showing how much $1.00 per annum
annually for 16

Years.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
16	19.73	20.67	21.66	22.70	23.79
17	20.32	21.39	22.52	23.71	24.98
18	20.93	22.14	23.43	24.79	26.23
19	21.56	22.92	24.36	25.90	27.54
20	22.21	23.72	25.34	27.07	28.72
21	22.88	24.55	26.35	28.29	30.36
22	23.56	25.41	27.40	29 55	31.88
23	24.27	26.30	28.50	30.89	33.48
24	25.00	27.27	29.64	32.28	35.15
25	25.74	28.16	30.82	33.73	36.91
26	26.52	29.06	32.06	35.25	38.75
27	27.31	30.18	33.34	36.83	40.69
28	28.13	31.23	34.67	38.50	42.72
29	28.98	32.33	36.06	40.22	44.87
30	29 85	33.46	37.50	42.03	47.11
31	30.74	34.63	39.00	43.93	49.46
32	31.66	35.84	40.56	45.90	51.93
33	32.61	37.10	42.19	47.97	54.53
34	33.59	38.39	43.87	50.12	57.26
35	34.60	39.74	45.63	52.39	60.12
36	35.64	41.13	47 45	54.73	63.12
37	36.71	41.97	49.35	57.20	66.28
38	37.81	44.06	51.33	59.78	69.59
39	38.94	45.60	53.38	62.47	73.07
40	40.11	47.20	55.51	65.28	76.73
41	41.31	48 05	57.74	68.21	80.56
42	42.55	50.56	60.05	71.29	84.59
43	43.83	52.33	62.45	74.50	88.82
44	45.15	54.16	64.95	77.84	93.36
45	46.50	56.05	67.54	81.34	97.92
46	47.89	58.02	70.24	85.00	102.82
47	49.33	60.05	73.05	88.80	107.96
48	50.81	62.14	75.98	92.82	113.36
49	52.34	64.32	79.01	97.00	119.03
50	53.90	66.58	82.18	101.38	124.98

For explanation, see page 198.

No. 8.

for 15 years will amount to, compounded to 50 years.

6 Per cent. Col. 6.	7 Per cent. Col. 7.	8 Per cent. Col. 8.	9 Per cent. Col 9.	10 Per cent. Col. 10.	Years.
26.15	28.77	31.67	34.88	38.44	16
27.72	30.78	34.20	38.02	42.29	17
29.39	32.94	37.04	41.44	46.52	18
31.15	35.24	39.90	45.18	51.17	19
33.02	37.71	43.08	49.24	56.27	20
35.00	40.35	46.53	53.67	61.92	21
37.10	43.18	50.26	58.50	68.11	22
39.32	46.20	54.28	63.77	74.92	23
41.68	49.43	58.62	69.51	82.41	24
44.18	52.89	63.31	75.75	90.65	25
46.84	56.60	68.37	82.57	99.71	26
49.65	60.56	73.84	90.02	109.67	27
52.62	64.79	79.75	98.12	120.65	28
55.78	69.33	86.13	106.95	132.72	29
59.13	74.18	93.02	116.57	145.98	30
62.68	79.38	100.46	127.05	160.59	31
66.44	84.93	108.50	138.50	176.64	32
70.42	90.88	117.18	150.96	194.32	33
74.65	97.24	126.55	164.55	213.74	34
79.13	104.05	136.68	179.35	235.11	35
83.88	111.33	147.61	195.50	258.63	36
88.91	119.12	159.42	213.10	284.49	37
94.24	127.46	172.18	232.28	312.94	38
99.90	136.39	185.95	253.18	344.24	39
105.89	145.93	200.83	275.97	378.67	40
112.25	156.05	216.89	300.80	416.53	41
118.98	167.08	234.25	327.88	458.19	42
126.12	178.77	252.98	357.38	503.98	43
133.69	191.29	273.22	389.48	554.30	44
141.71	204.68	295.08	424.61	609.84	45
150.21	219.01	318 69	462.77	670.68	46
159.22	234.34	344.18	504.37	737.79	47
168.77	250.74	371.71	549.82	811.71	48
178.90	268.29	401.45	599.36	892.88	49
189.64	287.07	433.57	653.32	982.09	50

For explanation, see page 198.

TAE

Showing how much $1.00 per an
annually fc

ɪs.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.
1	28.51	30.29	32.21	34.26
22	29.36	31.35	33.50	35.80
23	30.24	32.45	34.84	37.41
24	31.15	33.59	36.23	39.09
25	32.09	34.76	37.68	40.85
26	33.05	35.99	39.18	42.69
27	34.04	37.24	40.75	44.61
28	35.06	38.54	42.38	46.62
29	36.11	39.89	44.08	48.72
30	37.19	41.29	45.84	50.91
31	38.31	42.73	47.68	53.20
32	39.46	44.23	49.58	55.60
33	40.64	45.78	51.56	58.10
34	41.86	47.38	53.63	60.71
35	43.12	49.04	55.77	63.45
36	44.41	50.75	58.01	66.30
37	45.74	52.53	60.32	69.28
38	47.12	54.37	63.67	72.40
39	48.53	56.27	65.25	75.66
40	49.99	58.24	67.86	79.06
41	51.49	60.28	70.57	82.62
42	53.03	62.39	73.39	86.34
43	55.02	64.57	76.33	90.23
44	56.26	66.83	79.38	94.28
45	57.95	69.17	82.56	98.53
46	59.69	71.59	85.86	102.96
47	61.48	74.10	89.30	107.49
48	63.32	76.69	92.88	112.44
49	65.22	79.38	96.58	117.49
50	67.18	82.15	100.45	122.78

For explanation, see page 19

No. 9.

for 20 years will amount to, compounded to 50 years.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
41.33	46.94	53.38	60.78	69.30	21
43.81	50.22	57.65	66.25	76.23	22
46.44	53.73	62.26	72.22	83.86	23
49.23	57.50	67.24	78.72	92.24	24
52.18	61.53	72.62	85.80	101.47	25
55.31	65.83	78.43	93.52	111.62	26
58.63	70.44	84.70	101.94	122.77	27
62.15	75.37	91.48	111.08	135.05	28
65.88	80.65	98.80	121.11	148.55	29
69.83	86.29	106.70	131.99	163.41	30
74.02	92.33	115.13	143.87	179.75	31
78.46	98.79	124.45	156.85	197.70	32
83.17	105.71	134.41	170.96	217.48	33
88.16	113.11	145.16	186.35	239.25	34
93.45	120.62	156.78	203.12	263.16	35
99.05	129.50	169.32	221.39	289.50	36
104.99	138.56	182 86	241.33	318.45	37
111.30	148.26	197.49	263.04	350.29	38
117.98	159.55	213.29	286.72	385.32	39
125.05	169.75	230.36	312.50	423.85	40
132.56	181.63	248.79	340.65	466.22	41
140.51	194.34	268.69	371.31	512.84	42
148.94	207.94	290.19	404.73	564.12	43
157.88	222.50	313.40	441.16	620.56	44
167.35	238.07	338.47	480.86	682.61	45
177.39	254.74	365.55	524.13	750.86	46
188.03	272.57	394.80	571.31	825.96	47
199.32	291.65	426.38	622.72	908.50	48
211.28	312.07	460.49	678.76	999.41	49
223.95	333.92	497.33	739.87	1099.36	50

For explanation, see page 198.

TABLE

Showing the present value of $1.00 due 50, in

Years.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
1	.9709	.9662	.9615	.9569	.9524
2	.9426	.9335	.9246	.9157	.9070
3	.9151	.9019	.8890	.8763	.8638
4	.8885	.8714	.8548	.8386	.8227
5	.8626	.8420	.8219	.8025	.7835
6	.8375	.8135	.7903	.7679	.7462
7	.8131	.7860	.7599	.7348	.7107
8	.7894	.7594	.7307	.7032	.6768
9	.7664	.7337	.7026	.6729	.6446
10	.7441	.7089	.6756	.6439	.6139
11	.7224	.6849	.6496	.6162	.5847
12	.7014	.6618	.6246	.5897	.5568
13	.6810	.6394	.6006	.5643	.5303
14	.6611	.6178	.5775	.5400	.5051
15	.6419	.5969	.5553	.5167	.4810
16	.6232	.5767	.5339	.4945	.4581
17	.6050	.5572	.5134	.4732	.4363
18	.5874	.5384	.4936	.4528	.4155
19	.5703	.5202	.4746	.4333	.3957
20	.5537	.5026	.4564	.4146	.3769
21	.5375	.4856	.4388	.3968	.3589
22	.5219	.4692	.4220	.3797	.3419
23	.5067	.4533	.4057	.3634	.3256
24	.4919	.4380	.3901	.3477	.3101
25	.4776	.4231	.3751	.3327	.2953
26	.4637	.4088	.3607	.3184	.2812
27	.4502	.3950	.3468	.3047	.2678
28	4371	.3817	.3335	.2916	.2551
29	.4243	.3687	.3206	.2790	.2429
30	.4120	.3563	.3083	.2670	.2314
31	.4000	.3442	.2965	.2555	.2204
32	.3883	.3326	.2851	.2445	.2099
33	.3770	.3213	.2741	.2340	.1999
34	.3660	.3105	.2636	.2239	.1904
35	.3554	.3000	.2534	.2143	.1813
36	.3450	.2898	.2437	.2050	.1727
37	.3350	.2800	.2343	.1962	.1644
38	.3252	.2706	.2253	.1878	.1566
39	.3158	.2614	.2166	.1797	.1491
40	.3066	.2526	.2083	.1719	.1420
41	.2976	.2440	.2003	.1645	.1353
42	.2890	.2358	.1926	.1574	.1288
43	.2805	.2278	.1852	.1507	.1227
44	.2724	.2201	.1780	.1442	.1169
45	.2644	.2127	.1712	.1380	.1113
46	.2567	.2055	.1646	.1320	.1060
47	.2493	.1985	.1583	.1263	.1009
48	.2420	.1918	.1522	.1209	.0961
49	.2350	.1853	.1463	.1157	.0916
50	.2281	.1791	.1407	.1107	.0872

For explanation, see page 198.

No. 10.

in any number of years, from 1 to
clusive.

6 Per cent.	7 Per cen .	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
.9434	.9346	.9259	.9174	.9091	1
.8900	.8734	.8573	.8417	.8264	2
.8396	.8163	.7938	.7722	.7513	3
.7921	.7629	.7350	.7084	.6830	4
.7473	.7130	.6806	.6499	.6209	5
.7050	.6663	.6302	.5963	.5645	6
.6651	.6228	.5835	.5470	.5132	7
.6274	.5820	.5403	.5019	.4665	8
.5919	.5439	.5002	.4604	.4241	9
.5584	.5083	.4632	.4224	.3855	10
.5268	.4751	.4289	.3875	.3505	11
.4970	.4440	.3971	.3555	.3186	12
.4688	.4150	.3678	.3262	.2897	13
4423	.3878	.3405	.2992	.2633	14
.4173	.3624	.3152	.2745	.2394	15
.3936	.3387	.2919	.2519	.2176	16
.3714	.3166	.2703	.2311	.1978	17
.3503	.2959	.2502	.2120	.1799	18
.3305	.2765	.2317	.1945	.1635	19
.3118	.2584	.2145	.1784	.1486	20
.2942	.2415	.1987	.1637	.1351	21
.2775	.2257	.1839	.1502	.1228	22
.2618	.2109	1703	.1378	.1117	23
.2470	.1971	.1577	.1264	.1015	24
.2330	.1842	.1460	.1160	.0923	25
.2198	.1722	.1352	.1064	.0839	26
.2074	.1609	.1252	.0976	.0763	27
.1956	.1504	.1159	.0895	.0693	28
.1846	.1406	.1073	.0822	.0630	29
.1741	.1314	.0994	.0754	.0573	30
.1643	.1228	.0920	.0691	.0521	31
.1550	.1147	.0852	.0634	.0474	32
.1462	.1072	.0789	.0582	.0431	33
.1379	.1002	.0730	.0534	.0391	34
.1301	.0937	.0676	.0490	.0356	35
.1227	.0875	.0626	.0449	.0323	36
.1158	.0818	.0580	.0412	.0294	37
.1092	.0765	.0537	.0378	.0267	38
.1031	.0715	.0497	.0347	.0244	39
.0972	.0668	.0460	.0318	.0221	40
.0917	.0624	.0426	.0292	.0201	41
.0865	.0583	.0395	.0268	.0183	42
.0816	.0545	.0365	.0246	.0166	43
0770	.0509	.0338	.0226	.0151	44
.0727	.0476	.0313	.0207	.0137	45
.0685	.0445	.0290	.0190	.0125	46
.0647	.0416	.0269	.0174	.0113	47
.0610	.0389	.0249	.0160	.0103	48
.0575	.0363	.0230	.0147	.0094	49
.0543	.0339	.0213	.0134	.0085	50

For explanation, see page 198.

TABLE

Showing the present value of $1.00 per from 1 to

YEARS.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
1	.9709	.9662	0.9615	0.9569	0.9524
2	1.9135	1.8997	1.8861	1.8727	1.8594
3	2 8286	2.8016	2.7751	2.7490	2.7232
4	3.7171	3.6731	3.6299	3.5875	3.5460
5	4.5797	4.5151	4.4518	4.3900	4.3295
6	5.4172	5.3286	5.2421	5.1579	5.0757
7	6.2303	6.1145	6.0021	5.8927	5.7864
8	7.0197	6.8740	6.7327	6.5959	6.4632
9	7.7861	7.6077	7.4353	7.2688	7.1078
10	8.5302	8.3166	8.1109	7.9127	7.7217
11	9.2526	9.0016	8.7605	8.5289	8.3064
12	9.9540	9.6633	9.3851	9.1186	8.8633
13	10.6350	10.3027	9.9856	9.6829	9.3936
14	11.2961	10.9205	10.5631	10.2228	9.8986
15	11.9379	11.5174	11.1184	10.7395	10.3797
16	12.5611	12.0941	11.6523	11.2340	10.8378
17	13.1661	12.6513	12.1657	11.7072	11.2741
18	13.7535	13.1897	12.6593	12.1600	11.6896
19	14.3238	13.7098	13.1339	12.5933	12.0853
20	14.8775	14.2124	13.5903	13.0079	12.4622
21	15.4150	14.6980	14.0292	13.4047	12.8212
22	15.9369	15.1671	14.4511	13.7844	13.6030
23	16.4436	15.6204	14.8568	14.1478	13.4886
24	16.9355	16.0584	15.2470	14.4955	13.7986
25	17.4131	16.4815	15.6221	14.8282	14.0939
26	17.8768	16.8904	15.9828	15.1466	14.3752
27	18.3270	17.2854	16.3296	15.4513	14.6430
28	18.7641	17.6670	16.6631	15.7429	14.8981
29	19.1885	18.0358	16.9837	16.0219	15.1411
30	19.6004	18.3920	17.2920	16.2889	15 3725
31	20.0004	18.7363	17.5885	16.5444	15.5928
32	20.3888	19.0689	17.8736	16.7889	15.8027
33	20.7658	19.3902	18.1476	17.0229	16.0025
34	21 1318	19.7007	18.4112	17.2468	16.1929
35	21.4872	20.0007	18.6646	17.4610	16.3742
36	21.8323	20.2905	18.9083	17.6660	16.5469
37	22.1672	20.5705	19.1426	17.8622	16.7113
38	22.4925	20.8411	19.3679	18.0500	16.8679
39	22.8082	21.1025	19.5845	18.2297	17.0170
40	23.1148	21.3551	19.7928	18.4016	17.1591
41	23.4124	21.5991	19.9931	18.5661	17.2944
42	23.7014	21.8349	20.1856	18.7235	17.4232
43	23.9819	22.0627	20.3708	18.8742	17.5459
44	24.2543	22.2828	20.5488	19.0184	17.6628
45	24.5187	22.4955	20.7200	19.1563	17.7741
46	24.7754	22.7009	20.8847	19.2884	17.8801
47	25.0247	22.8994	21.0429	19.4147	17.9801
48	25.2667	23.0912	21.1951	19.5356	18.0772
49	25.5017	23.2766	21.3415	19.6513	18.1687
50	25.7298	23.4556	21.4852	19.7620	18.2559

For explanation, see page 198.

No. 11.

annum due in any number of years, 50, inclusive.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
0.9434	0.9346	0.9259	0.9174	0.9091	1
1.8334	1.8080	1.7833	1.7591	1.7355	2
2.6730	2.6243	2.5771	2.5313	2.6849	3
3.4651	2.3872	3.3121	3.2397	3.1699	4
4.2124	4.1002	3.9927	3.8897	3.7908	5
4.9173	4.7665	4.6229	4.4859	4.3543	6
5.5824	5.3893	5.2064	5.0330	4 8684	7
6.2098	5.9713	5.7466	5.5348	5.3349	8
6.8017	6.5152	6.2469	5.9952	5.7590	9
7.3601	7.0236	6.7101	6.4177	6,1446	10
7.8869	7.4987	7.1390	6.8052	6.4951	11
8.3838	7.9427	7.5361	7.1607	6.8137	12
8.8527	8.3577	7.9038	7.4869	7.1034	13
9.2950	8.7455	8.2442	7.7861	7.3677	14
9.7122	9.1079	8.5595	8.0607	7.6061	15
10.1059	9.4466	8.8514	8.3125	7.8237	16
10.4773	9.7632	9.1216	8.5436	8.0216	17
10.8276	10.0591	9.3719	8.7556	8.2014	18
11.1501	10.3356	9.6036	8.9501	8.3649	19
11.4699	10.5940	9.8181	9.1285	8.5136	20
11.7641	10.8355	10.0168	9.2922	8.6487	21
12.0416	11.0612	10.2007	9.4424	8.7715	22
12.3034	11.2722	10.3711	9.5802	8.8832	23
12.5504	11.4693	10.5288	9.7066	8.9847	24
12.7834	11.6536	10.6748	9.8226	9.0770	25
13.0032	11.8258	10.8100	9.9290	9.1609	26
13.2105	11.9867	10.9352	10.0266	9.2372	27
13.4062	12.1371	11.0511	10.1161	9.3066	28
13.5907	12.2777	11.1584	10.1983	9.3696	29
13.7648	12.4090	11.2578	10.2736	9.4269	30
13.9291	12.5318	11.3498	10.3428	9.4790	31
14.0840	12.6466	11.4350	10.4062	9.5264	32
14.2302	12.7538	11.5139	10.4644	9.5694	33
14.3681	12.8540	11.5869	10.5178	9.6086	34
14.4982	12.9477	11.6546	10.5668	9.6442	35
14.6210	13.0352	11.7172	10.6117	9.6765	36
14.7368	13.1170	11.7752	10.6530	9.7059	37
14.8460	13.1935	11.8289	10.6908	9.7327	38
14.9491	13.2649	11.8786	10.7255	9.7570	39
15.0463	13.3317	11.9246	10.7573	9.7791	40
15.1380	13.3941	11.9672	10.7866	9.7991	41
15.2245	13.4524	12.0067	10.8134	9.8174	42
15.3062	13.5070	12.0432	10.8379	9.8340	43
15.3832	13.5579	12.0771	10.8605	9.8491	44
15.4558	13.6055	12.1084	10.8812	9.8628	45
15.5244	13.6500	12.1374	10.9002	9.8753	46
15.5890	13.6916	12.1643	10.9176	9.8866	47
15.6500	13.7305	12.1891	10.9336	9.8969	48
15.7076	13.7668	12.2122	10.9482	9.9063	49
15.7619	13.8007	12.2335	10.9617	9.9148	50

For explanation, see page 198.

TABLE

Showing how much money must be invested 1 to 50 years, to

YEARS.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
1	970.90	966.20	961.54	956.95	952.38
2	478.26	474.79	471.34	467.95	464.58
3	314.11	311.05	308.02	305.05	302.11
4	232.07	229.23	226.43	223.68	220.97
5	182.87	180.01	177.53	174.94	172.36
6	150.10	147.50	144.96	142.47	140.02
7	126.70	124.19	121.74	119.33	116.97
8	109.18	106.74	104.35	102.02	99.73
9	95.57	93.18	90.86	88.59	86.37
10	84.69	82.36	80.09	77.88	75.72
11	75.80	73.52	71.30	69.14	67.04
12	68.41	66.18	63.99	61.88	59.83
13	62.16	59.96	57.83	55.77	53.77
14	56.82	54.66	52.57	50.55	48.59
15	52.20	50.07	48.02	46.04	44.14
16	48.16	46.07	44.06	42.12	40.26
17	44 61	42 56	40.58	38.68	36.86
18	41.47	39.44	37.50	35.63	33.85
19	38.66	36 91	34.75	32 93	31.19
20	36.13	34.17	32.29	30.50	28.80
21	33.86	31.92	30.08	28.33	26.66
22	31.71	29.89	28.08	26.36	24.73
23	29.91	28.04	26.26	24.58	22.99
24	28.20	26.35	24.60	22.95	21.40
25	26.63	24.81	23.09	21.47	19.96
26	25.18	24.38	21.70	20.12	18.63
27	23.85	22.08	20.42	18.87	17.42
28	22.62	20.87	19.24	17.72	16.31
29	21.48	19.75	18.16	16.67	15.28
30	20.41	18.72	17.14	15.69	14.34
31	19.42	18.07	16 21	14.78	13.46
32	18.49	16.85	15.34	13.94	12.65
33	17.63	16.01	14.52	13.16	11.90
34	16.82	15.23	13.76	12.42	11.20
35	16.06	14.49	13.06	11.74	10.55
36	15.34	13.80	12.39	11.11	9.94
37	14.67	13.15	11.77	10.51	9.37
38	14.04	12.54	11.19	9 96	8.84
39	13.44	11.97	10.64	9.43	8.35
40	12.88	11.43	10.12	8.94	7.88
41	12.34	10.92	9.63	8.48	7.45
42	11.84	10.43	9.17	8.04	7.04
43	11.36	9.98	8.74	7.64	6.66
44	10.90	9.54	8.33	7.25	6.30
45	10.50	9.13	7.94	6.89	5.97
46	10.06	8.75	7.58	6.55	5.65
47	9.67	8.38	7.23	6.23	5.35
48	9.30	8.03	6.91	5.92	5.06
49	8.94	7.69	6.59	5.63	4.80
50	8.61	7.38	6.30	5.36	4.55

For explanation, see page 199.

No. 12.

every year, and compounded annually for amount to $1,000.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	YEARS.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
943.40	934.58	925.93	917.43	909.09	1
457.96	451.49	445.16	438.96	432.90	2
296.33	290.71	285.22	279.87	274.65	3
215.65	210.50	205.48	200.61	195.88	4
167.35	162.51	157.83	153.30	148.91	5
135.25	130.65	126.22	121.95	117.83	6
112.39	107.99	103.77	99.72	95.82	7
95.32	91.09	87.05	83.19	79.49	8
82.10	78.03	74.14	70.46	66.95	9
71.57	67.64	63.92	60.39	56.91	10
63.01	59.21	55.63	52.25	49.06	11
55.92	52.24	48.79	45.55	42.51	12
49.96	46.40	43.08	39.97	37.07	13
44.89	41.44	38.24	35.26	32.50	14
40.53	37.19	34.10	31.25	28.61	15
36.75	33.51	30.53	27.80	25.29	16
33.44	30.30	27.44	24.81	22.42	17
30.53	27.49	24.72	22.21	19.94	18
27.94	25.00	22.34	19.94	17.77	19
25.65	22.80	20.23	17.93	15.87	20
23.59	20.83	18.36	16.16	14.20	21
21.74	19.07	16.70	14.59	12.73	22
20.07	17.49	15.21	13.19	11.43	23
18.57	16.06	13.87	11.95	10.27	24
17.20	14.78	12.67	10.83	9.24	25
15.95	13.61	11.58	9.83	8.33	26
14.81	12.55	10.60	8.93	7.51	27
13.77	11.58	9.71	8.12	6.77	28
12.81	10.70	8.91	7.39	6.12	29
11.93	9.89	8.17	6.73	5.53	30
11.12	9.15	7.51	6.13	5.00	31
10.38	8.48	6.90	5.59	4.52	32
9.69	7.86	6.34	5.10	4.09	33
9.05	7.29	5.84	4.66	3.70	34
8.47	6.76	5.37	4.25	3.35	35
7.92	6.28	4.95	3.89	3.04	36
7.41	5.83	4.56	3.55	2.75	37
6.74	5.42	4.21	3.25	2.50	38
6.51	5.03	3.87	2.97	2.26	39
6.10	4.68	3.57	2.72	2.05	40
5.72	4.35	3.30	2.48	1.86	41
5.36	4.05	3.04	2.27	1.69	42
5.03	3.77	2.81	2.08	1.53	43
4.72	3.51	2.59	1.91	1.39	44
4.43	3.27	2.40	1.74	1.26	45
4.17	3.05	2.21	1.60	1.15	46
3.92	2.84	2.04	1.46	1.04	47
3.68	2.65	1.89	1.34	.95	48
3.46	2.47	1.75	1.23	.86	49
3.25	2.30	1 61	1.13	.78	50

For explanation, see page 199.

TABLE

Showing how much money must be invested nually, to amount to $1,000

YEARS.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
11	$82.22	$79.57	$77.01	$74.52	$72.11
12	79.83	76.88	74.05	71.31	68.68
13	77.51	74.29	71.20	68.24	65.41
14	75.24	71.77	68.46	65.30	62.29
15	73.06	69.34	65 82	62.49	59.33
16	70.92	67.00	63.30	59.80	56.50
17	68.86	64.73	60.86	57.22	53.81
18	66.85	62.58	58.52	54.76	51.25
19	64.91	60.43	56.27	52.40	49.81
20	63.02	58.39	54.11	50.14	46.49
21	61.18	56.41	52.02	47.99	44.27
22	59.39	54.50	50.02	45.92	42.16
23	57.67	52.65	48.10	43.94	40.16
24	55.99	50.98	46.25	42.05	38.24
25	54.35	49.16	44.47	40.24	36.42
26	52.78	47.50	42.76	38.51	34.69
27	51.24	45.89	41.12	36.85	33.04
28	49.75	44.34	39.53	35.26	31.46
29	48.29	42.84	38.01	33.74	29.96
30	46 93	41.39	36.55	32.29	28.54
31	45.52	40.00	35.14	30.90	27.18
32	44.20	38.65	33.79	29.58	25.88
33	42.91	37.34	32.49	28.30	24.67
34	41.07	36.07	31.25	27.08	23 44
35	40.40	34.85	30.04	25.91	22.34
36	39.23	33.67	28.89	24.79	21.30
37	38.13	32.53	27.78	23.73	20.30
38	37.00	31.41	26.71	22.71	19.32
39	35.94	30.36	25.68	21.73	18.40
40	34.90	29.34	24.69	20.79	17.53
41	33.87	28.35	23.74	19.90	16.69
42	32.90	27.40	22.83	19.04	15.90
43	31.93	26.47	21.95	18.22	15.13
44	31.00	25.57	21.11	17.44	14.42
45	30.10	24.71	20.30	16.68	13.73
46	29.22	23.87	19.52	15.97	13.08
47	28.37	23.06	18.77	15.30	12.45
48	27.55	22.29	18.04	14.62	11.86
49	26.75	21.53	17.35	14.00	11.29
50	25.97	20.80	16.68	13.40	10.75

For explanation, see page 199.

No. 13.

**every year, for 10 years, and compounded, an-
in 11 to 50 years.**

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	YEARS.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
$67.52	$63.22	$59.18	$55.40	$51.86	11
63.71	59.08	54.80	50.83	47.14	12
60.00	55.22	50.74	46.63	42.86	13
56.69	51.60	46.98	42.78	38.96	14
53.49	48.23	43.50	39.25	35.42	15
50.46	45.07	40.28	36.01	32.20	16
47.60	42.12	37.30	33.03	29.27	17
44.91	39.40	34.53	30.31	26.60	18
42.36	36.79	31.97	27.80	24.19	19
39.97	34.39	29.61	25.51	21.99	20
37.70	32.14	27.41	22.87	19.99	21
35.57	30.03	25.38	21.47	18.18	22
33.56	28.07	23.50	19.71	16.52	23
31.66	26.23	21.76	18.07	15.20	24
29.86	24.52	20.15	16.58	13.66	25
28.17	22.91	18.66	15.21	12.41	26
26.58	21.41	17.27	13.95	11.29	27
25.08	20.01	16.00	12.80	10.26	28
23.66	18.70	14.81	11.74	9.33	29
22.32	17.48	13.71	10.78	8.48	30
21.05	16.34	12.71	9.89	7.71	31
19.88	15.27	11.75	9.07	7.01	32
18.84	14.27	10.89	8.32	6.37	33
17.67	13.33	10.08	7.63	5.79	34
16.68	12.46	9.33	7.00	5.27	35
15.73	11.64	8.64	6.43	4.79	36
14.85	10.90	8.00	5.90	4.35	37
14.04	10.17	7.41	5.41	3.95	38
13.25	9.51	6.87	4.96	3.60	39
12.47	8.90	6.35	4.55	3.29	40
11.75	8.30	5.88	4.18	2.97	41
11.10	7.76	5.44	3.83	2.70	42
10.46	7.26	5.04	3.51	2.45	43
9.87	6.77	4.67	3.23	2.23	44
9.31	6.33	4.32	2.96	2.03	45
8.79	5.92	4.00	2.72	1.85	46
8.21	5.53	3.71	2.44	1.68	47
7.82	5.17	3.43	2.29	1.53	48
7.38	4.83	3.18	2.10	1.39	49
6.97	4.52	2.94	1.92	1.27	50

For explanation, see page 199.

TABLE

Showing how much money must be invested nually, to amount to $1,000

Years.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
16	$50.67	$48.38	$46.17	44.06	42.03
17	49.21	46.75	44.40	42.15	40.03
18	47.78	45.15	42.69	40.34	38.16
19	46 40	43.64	41.05	38.61	36.31
20	45.05	42.16	39.47	36.95	34.58
21	43.72	40.73	37.95	35.35	32.93
22	42.44	39.36	36.49	33 83	31.37
23	41.21	38.03	35.09	32.38	29.87
24	40.01	36.74	33.74	30.98	28.45
25	38.84	35.50	32.44	29.71	27.10
26	37.71	34.30	31.19	28.37	25.81
27	36.61	33.14	29.99	27.15	24.58
28	35.55	32.02	28.84	25.98	23.41
29	34.51	30.93	27.73	24.86	22.29
30	33.51	29.89	26.66	23.79	21.22
31	32.53	28.88	25.64	22.77	20.22
32	31.58	27.90	24.65	21.79	19.26
33	30.66	26.96	23.70	20.85	18.34
34	29.77	26.05	22.79	19.95	17.47
35	28.90	25.17	21.92	19.09	16.63
36	28.06	24.31	21.07	18.27	15.84
37	27.25	23.49	20.26	17.48	15.09
38	26.45	22.70	19.48	16.73	14.37
39	25.68	21.93	18.73	16.01	13.69
40	24.93	21.18	18.01	15.32	13.03
41	24.21	20.47	17.32	14.66	12.41
42	23.50	19.78	16.65	14.03	11.82
43	22.82	19.11	16.01	13.42	11.26
44	22.15	18.46	15.36	12.85	10.72
45	21.51	17.83	14.81	12.29	10.21
46	20.88	17.24	14.24	11.76	9.73
47	20.27	16.65	13.69	11.26	9.26
48	19.68	16.09	13.16	10.77	8.82
49	19.11	15.55	12.66	10.31	8.40
50	18.55	15.02	12.17	9.86	8.00

For explanation, see page 199.

No. 14.

every year, for 15 years, and compounded, an-
in 16 to 50 years.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
$38.24	$34.75	$31.58	$28.67	$26.01	16
36.07	32.48	29.24	26.30	23.65	17
34.03	30.36	27.07	24.13	21.50	18
32.10	28.37	25.07	22.14	19.54	19
30.29	26.52	23.21	20.31	17.77	20
28.57	24.78	21.49	18.63	16.19	21
26.96	23.16	19.90	17.09	14.68	22
25.43	21.65	18.43	15.68	13.35	23
23.99	20.23	17.06	14.41	12.14	24
22.63	18.91	15.79	13.20	11.03	25
21.35	17.67	14.63	12.11	10.03	26
20.14	16.51	13.54	11.11	9.12	27
19.00	15.29	12.54	10.19	8.29	28
17.93	14.42	11.61	9.36	7.54	29
16.91	13.48	10.75	8.58	6.85	30
15.59	12.60	9.96	7.87	6.23	31
15.05	11.77	9.22	7.22	5.67	32
14.20	11.00	8.54	6.63	5.15	33
13 39	10.29	7.91	6.08	4.68	34
12.64	9.62	7.32	5.58	4.25	35
11.25	8.98	6.78	5.12	3.87	36
11.24	8.39	6.21	4.69	3.52	37
10.61	7.85	5.81	4.31	3.10	38
10.01	7.33	5.38	3.95	2.91	39
9.44	6.85	4.98	3.63	2.65	40
8.91	6.40	4.62	3.33	2.41	41
8.40	5.99	4.27	3.05	2.18	42
7.93	5.59	3.95	2.80	1.99	43
7.48	5.23	3.66	2.57	1.84	44
7.05	4.86	3.39	2.36	1.64	45
6.66	4.57	3.14	2.16	1,49	46
6.29	4.27	2.91	1.98	1.31	47
5.93	3 99	2.69	1.82	1.23	48
5.59	3.73	2.49	1.67	1.11	49
5.27	3.49	2.31	1.54	1.01	50

For explanation, see page 199.

TABLE

Showing how much money must be in compounded, annually, to amount

Years.	3 Per cent.	3½ Per cent.	4 Per cent.	4½ Per cent.	5 Per cent.
	Col. 1.	Col. 2	Col. 3.	Col. 4.	Col. 5.
21	$35.08	$33.01	$31.05	$29.19	$27.43
22	34.05	31.90	29.85	27.93	26,12
23	33.07	30.81	28.71	26.73	25.23
24	32.10	29.77	27.60	25.58	23.70
25	31.17	28.77	26.54	24.48	22.57
26	30.33	27.79	25.52	23.42	21.49
27	29.38	26.85	24.54	22.42	20.46
28	28.52	25.95	23.60	21.45	19.50
29	27.69	25,07	22.69	20.53	18.57
30	26.89	24.22	21.82	19.64	17.68
31	26.10	23.49	20.98	18.80	16.84
32	25.34	22.51	20.17	17.99	16.03
33	24.60	21.85	19.39	17.21	15.28
34	23.89	21.11	18.65	16.47	14.55
35	23.19	20.40	17.93	15.76	13.86
36	22.52	19.70	17.24	15.08	13.20
37	21.86	19.04	16.58	14.43	12.56
38	21.21	18.39	15.94	13.81	11.99
39	20.61	17.77	15.33	13.21	11.40
40	20.01	17.17	14.40	12.64	10.86
41	19.42	16.59	14.17	12.10	10.34
42	18.86	16.04	13.63	11.58	9.85
43	18.31	15.49	13.10	10.09	9.38
44	17.77	14.96	12.60	10.61	8.93
45	17.25	14.46	12.11	10.15	8.51
46	16.75	13.97	11.65	9.71	8.10
47	16.27	13.50	11,20	9.29	7.72
48	15.58	13.04	10.74	8.89	7.35
49	15.33	12.60	10.35	8.51	7.00
50	14.89	12.17	9.96	8.15	6.66

For explanation, see page 199.

No. 15.

vested, every year, for 20 years, and to $1,000, in 21 to 50 years.

6 Per cent.	7 Per cent.	8 Per cent.	9 Per cent.	10 Per cent.	Years.
Col. 6.	Col. 7.	Col. 8.	Col. 9.	Col. 10.	
$24.19	$21.31	$18.74	$16.45	$14.43	21
22.83	19.91	17.35	15.09	13.12	22
21.53	18.61	16.06	13.83	11.23	23
20.31	17.39	14.87	12.71	10.84	24
19.17	16.25	13.77	11.66	9.86	25
18.08	15.19	12.75	10.69	8.96	26
17.06	14.19	11.80	9.81	8.15	27
16.09	13.26	10.93	9.00	7.42	28
15.18	12.40	10.12	8.26	6.73	29
14.32	11 58	9.38	7.57	6.12	30
13.55	10.83	8.68	6.95	5.56	31
12.75	10.12	8.04	6.38	5.06	32
12.02	9.46	7.44	5.85	4.60	33
10.86	8.84	6.89	5.37	4.18	34
10.70	8 27	6.38	4.92	3.80	35
10.09	7.72	5.91	4.52	3.45	36
9 52	7.22	5.47	4.14	3.15	37
8.99	6.75	5.06	3.80	2.86	38
8.48	6.30	4.69	3.49	2.60	39
8 00	5.89	4.34	3.20	2.36	40
7.54	5.51	4.02	2.93	2.15	41
7.12	5.15	3.72	2.69	1.95	42
6.72	4.81	3.45	2.48	1.77	43
6.34	4.50	3.20	2.27	1.61	44
5.98	4.20	2.96	2.08	1.47	45
5.64	3.93	2.74	1.91	1.33	46
5.32	3.67	2.53	1.75	1.21	47
5.02	3.43	2.35	1.61	1.11	48
4.73	3.20	2.17	1.47	1.00	49
4.47	2.99	2.01	1.35	.91	50

For explanation, see page 199.

TABLE No. 16.

Actuaries' Table of Mortality.

Age.	Number living.	Deaths each year.	Per cent. of deaths to the living.	Expectation of life.	Net Premiums. Actuaries' 4 per cent. Level Ann. Prem. to insure $1,000 for life.	Natural Pr'm. to insure $1000 one year.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.
10	100,000	676	.006760	48.36	10.43	6.50
11	99,324	674	.006786	47.68	10.63	6.53
12	98,650	672	.006812	47.01	10.84	6.55
13	97,978	671	.006848	46.33	11.07	6.59
14	97,307	671	.006896	45.64	11.30	6.63
15	96,636	671	.006944	44.96	11.54	6.68
16	95,965	672	.007003	44.27	11.80	6.73
17	95,293	673	.007062	43.58	12.07	6.79
18	94,620	675	.007134	42.88	12.35	6.86
19	93,945	677	.007206	42.19	12.64	6.93
20	93,268	680	.007291	41.49	12.95	7.01
21	92,588	683	.007377	40.79	13.27	7.09
22	91,905	686	.007464	40.09	13.61	7.18
23	91,219	690	.007564	39.39	13.96	7.27
24	90,529	694	.007666	38.68	14.33	7.37
25	89,835	698	.007770	37.98	14.72	7.47
26	89,137	703	.007887	37.27	15.13	7.58
27	88,434	708	.008006	36.56	15.56	7.70
28	87,726	714	.008139	35.86	16.01	7.83
29	87,012	720	.008275	35.15	16.48	7.96
30	86,292	727	.008425	34.43	16.97	8.10
31	85,565	734	.008578	33.72	17.49	8.25
32	84,831	742	.008747	33.01	18.04	8.41
33	84,089	750	.008919	32.30	18.62	8.58
34	83,339	758	.009095	31.58	19.23	8.75
35	82,581	767	.009288	30.87	19.87	8.93
36	81,814	776	.009485	30.15	20.54	9.12
37	81,038	785	.009687	29.44	21.26	9.31
38	80,253	795	.009906	28.72	22.02	9.53
39	79,458	805	.010131	28.00	22.82	9.74
40	78,653	815	.010362	27.28	23.68	9.96
41	77,838	826	.010612	26.56	24.59	10.20
42	77,012	839	.010894	25.84	25.55	10.48
43	76,173	857	.011251	25.12	26.59	10.82
44	75,316	881	.011697	24.40	27.68	11.25
45	74,435	909	.012212	23.69	28.85	11.74
46	73,526	944	.012839	22.97	30.08	12.35
47	72,582	981	.013517	22.27	31.39	13.00
48	71,601	1,021	.014260	21.56	32.77	13.71
49	70,580	1,063	.015061	20.87	34.23	14.48
50	69,517	1,108	.015939	20.18	35.78	15.33
51	68,409	1,156	.016898	19.50	37.42	16.25
52	67,253	1,207	.017947	18.82	39.15	17.26
53	66,046	1,261	.019093	18.16	41.00	18.36
54	64,785	1,316	.020313	17.50	42.95	19.53

For explanation, see page 199.

TABLE No. 16. —CONTINUED.
Actuaries' Table of Mortality.

AGE.	Number living.	Deaths each year.	Per cent. of deaths to the living.	Expectation of life.	NET PREMIUMS. Actuaries' 4 per cent. Level Ann. Prem. to insure $1,000 for life.	Natural Pr'm. to insure $1000 one year.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.
55	63,469	1,375	.021664	16.86	$45.03	$20.83
56	62,094	1,436	.023126	16.22	47.23	22.24
57	60,658	1,497	.024679	15.59	49.57	23.73
58	59,161	1,561	.026386	14.97	52.07	25.37
59	57,600	1,627	.028247	14.37	54.72	27.16
60	55,973	1,698	.030336	13.77	57.56	29.17
61	54,275	1,770	.032612	13.18	60.57	31.36
62	52,505	1,844	.035120	12.61	63.78	33.77
63	50,661	1,917	.037840	12.05	67.20	36.38
64	48,744	1,990	.040826	11.51	70.84	39.26
65	46,754	2,061	.044082	10.97	74.72	42.39
66	44,693	2,128	.047614	10.46	78.85	45.78
67	42,565	2,191	.051474	9.96	83.24	49.49
68	40,374	2,246	.055630	9.47	87.91	53.49
69	38,128	2,291	.060087	9.00	92.89	57.78
70	35,837	2,327	.064933	8.54	98.20	62.44
71	33,510	2,351	.070158	8.10	103.87	67.46
72	31,159	2,362	.075805	7.67	109.91	72.89
73	28,797	2,358	.081884	7.26	116.36	78.73
74	26,439	2,339	.088468	6.86	123.25	85.07
75	24,100	2,303	.095560	6.48	130.61	91.89
76	21,797	2,249	.103179	6.11	138.49	99.21
77	19,548	2,179	.111469	5.76	146.94	107.18
78	17,369	2,092	.120444	5.42	155.98	115.81
79	15,277	1,987	.130065	5.09	165.68	125.06
80	13,290	1,866	.140406	4.78	176.10	135.01
81	11,424	1,730	.151436	4.48	187.32	145.61
82	9,694	1,582	.163194	4.18	199.49	156.92
83	8,112	1,427	.175912	3.90	212.78	169.15
84	6,685	1,268	.189678	3.63	227.42	182.38
85	5,417	1,111	.205095	3.36	243.73	197.21
86	4,306	958	.222480	3.10	262.03	213.92
87	3,348	811	.242234	2.84	282.69	232.92
88	2,537	673	.265274	2.59	306.23	255.07
89	1,864	545	.292382	2.35	333.15	281.14
90	1,319	427	.323730	2.11	363.90	311.28
91	892	322	.360987	1.89	399.27	347.10
92	570	231	.405263	1.67	439.95	389.68
93	339	155	.457227	1.47	486.07	439.64
94	184	95	.516304	1.28	537.29	496.45
95	89	52	.584270	1.12	592.71	561.80
96	37	24	.648640	.99	645.62	623.70
97	13	9	.692308	.89	693.08	665.68
98	4	3	.750000	.75	767.74	721.15
99	1	1	1.000000	.50	961.54	961.54

For explanation, see page 199.

TABLE No. 17.

American Experience Table of Mortality.

Age.	Number living.	Deaths each year.	Per cent. of deaths to the living.	Expectation of life.	Net Premiums, American—4 per cent. Level Ann. Prem. to insure $1,000 for life.	Net Premiums, American—4 per cent. Natural Pr'm. to insure $1000 one year.
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.
10	100,000	749	.007490	48.72	10.53	7.20
11	99,251	746	.007516	48.08	10.70	7.23
12	98,505	743	.007543	47.45	10.88	7.25
13	97,762	740	.007569	46.80	11.06	7.28
14	97,022	737	.007596	46.16	11.26	7.30
15	96,285	735	.007634	45.50	11.47	7.34
16	95,550	732	.007661	44.85	11.69	7.37
17	94,818	729	.007688	44.19	11.91	7.39
18	94,089	727	.007727	43.53	12.15	7.43
19	93,362	725	.007765	42.87	12.40	7.46
20	92,637	723	.007805	42.20	12.67	7.50
21	91,914	722	.007855	41.53	12.95	7.55
22	91,192	721	.007906	40.85	13.24	7.60
23	90,471	720	.007958	40.17	13.55	7.65
24	89,751	719	.008011	39.49	13.87	7.70
25	89,032	718	.008065	38.81	14.21	7.75
26	88,314	718	.008130	38.12	14.57	7.82
27	87,596	718	.008197	37.43	14.95	7.88
28	86,878	718	.008264	36.73	15.35	7.95
29	86,160	719	.008345	36.03	15.77	8.02
30	85,441	720	.008427	35.33	16.21	8.10
31	84,721	721	.008510	34.63	16.68	8.18
32	84,000	723	.008607	33.93	17.18	8.28
33	83,277	726	.008718	33.21	17.70	8.38
34	82,551	729	.008831	32.50	18.26	8.49
35	81,822	732	.008946	31.78	18.84	8.60
36	81,090	737	.009089	31.07	19.46	8.74
37	80,353	742	.009234	30.35	20.12	8.88
38	79,611	749	.009408	29.62	20.82	9.05
39	78,862	756	.009586	28.90	21.57	9.22
40	78,106	765	.009794	28.18	22.35	9.42
41	77,341	774	.010008	27.45	23.19	9.62
42	76,567	785	.010252	26.72	24.08	9.86
43	75,782	797	.010517	26.00	25.03	10.11
44	74,985	812	.010829	25.27	26.04	10.41
45	74,173	828	.011163	24.54	27.12	10.73
46	73,345	848	.011562	23.81	28.27	11.12
47	72,497	870	.012000	23.08	29.50	11.54
48	71,627	896	.012509	22.36	30.81	12.03
49	70,731	927	.013106	21.63	32.21	12.60
50	69,804	962	.013781	20.91	33.70	13.25
51	68,842	1,001	.014541	20.20	35.29	13.98
52	67,841	1,044	.015389	19.49	36.98	14.80

For explanation, see page 200.

TABLE No. 17. —Continued.

American Experience Table of Mortality.

Age.	Number living.	Deaths each year.	Per cent. of deaths to the living.	Expectation of life.	Net Premiums. American—4 per cent. Level Ann. Prem. to insure $1,000 for life.	Natural Pr'm. to insure $1000 one year.
	Col 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6
53	66,797	1,091	.016333	18.79	$38.79	$15.71
54	65,706	1,143	.017396	18.09	40.73	16.73
55	64,563	1,199	.018571	17.40	42.79	17.86
56	63,364	1,260	.019885	16.72	45.00	19.12
57	62,104	1,325	.021335	16.05	47.35	20.52
58	60,779	1,394	.022936	15.39	49.87	22.05
59	59,385	1,468	.024720	14.74	52.57	23.77
60	57,917	1,546	.026693	14.10	55.45	25.67
61	56,371	1,628	.028880	13.47	58.54	27.77
62	54,743	1,713	.031292	12.86	61.84	30.09
63	53,030	1,800	.033943	12.26	65.39	32.64
64	51,230	1,889	.036873	11.67	69.18	35.46
65	49,341	1,930	.040129	11.10	73.25	38.59
66	47,361	2,070	.043707	10.54	77.61	42.03
67	45,291	2,158	.047647	10.00	82.28	45.82
68	43,133	2,243	.052002	9.47	87.29	50.00
69	40,890	2,321	.056762	8.97	92.65	54.58
70	38,569	2,391	.061993	8.48	98.39	59.61
71	36,178	2,448	.067665	8.00	104.54	65.07
72	33,730	2,487	.073733	7.55	111.13	70.81
73	31,243	2,505	.080178	7.11	118 21	77.09
74	28,738	2,501	.087028	6.68	125.85	83.68
75	26,237	2,476	.094371	6.27	134.14	90.74
76	23,761	2,431	.102311	5.88	143.19	98.38
77	21,330	2,369	.111064	5.49	153.13	106.79
78	18,961	2,291	.120827	5.11	164.11	116.18
79	16,670	2,196	.131734	4.74	176·30	126.67
80	14,474	2,091	.144466	4.39	189.87	138.91
81	12,383	1,964	.158605	4.05	204.95	152.89
82	10,419	1,816	.174297	3.71	221.82	167.59
83	8,603	1,648	.191561	3.39	240.90	184.19
84	6,955	1,470	.211359	3.08	262.88	203.23
85	5,485	1,292	.235552	2.77	288.60	226.49
86	4,193	1,114	.265681	2.47	318.81	255.46
87	3,079	933	.303020	2.18	354.03	291.37
88	2,146	744	.346692	1.91	394.52	333.36
89	1,402	555	.395863	1.66	441.22	380.64
90	847	385	.454545	1.42	497.08	437.06
91	462	246	.532466	1.19	566.27	511.98
92	216	137	.634259	.98	649.34	609.86
93	79	58	.734177	.80	736.31	705.94
94	21	18	.857143	.64	840.75	824.18
95	3	3	1.000000	.50	961.54	961.54

For explanation, see page 200.

TABLE No. 18.

Constructed from the American Experience Table of Mortality, showing the chances, at a given age, of dying within a specified number of years thereafter.

Age.	Chances in 100 of dying within 10 years.	Chances in 100 of dying within 15 years.	Chances in 100 of dying within 20 years.	Chances in 100 of dying within 25 years.	Chances in 100 of dying within 30 years.	Chances in 100 of dying within 35 years.
20	7.77	11.67	15.69	19.98	24.65	30.31
25	8.10	12.27	16.67	21.60	27.48	34 95
26	8.18	12.43	16.95	22.05	28.25	36.20
27	8.27	12.59	17.24	22.55	29.10	37.51
28	8.37	12.77	17.55	23.11	30.04	38.96
29	8.47	12.97	17.91	23.74	31.08	40.54
30	8.59	13.19	18.30	24.43	32.21	42.25
31	8.71	13.43	18.74	25.21	33.46	44.10
32	8.85	13.69	19.24	26.07	34.83	46.08
33	9.00	13.99	19.79	27.02	36.32	48.21
34	9.17	14.32	20.41	28.06	37.94	50.47
35	9.35	14.69	21.09	29.22	39.70	52.86
36	9.55	15.10	21.86	30.48	41.59	55.39
37	9.78	15.57	22.71	31.87	43.63	58.02
38	10.03	16.10	23.66	33.39	45.82	60.76
39	10.31	16.68	24.70	35.04	48.15	63.56
40	10.63	17.34	25.85	36.83	50.62	66.41
41	10.99	18.07	27.11	38.76	53.22	69.28
42	11.40	18.89	28.50	40.85	55.95	72.14
43	11.86	19.80	30.02	43.08	58.77	74.99
44	12.37	20.80	31.68	45.47	61.68	77.77
45	12.96	21.92	33.48	48.00	64 63	80.49
46	13.61	22.14	35.43	50.67	67.60	83.12
47	14.34	24.49	37.53	53.47	70.58	85.63
48	15.15	25.96	39.78	56.38	73.53	87.99
49	16.04	27.58	42.19	59.37	76.43	90.17
50	17.03	29.32	44.75	62.41	79.26	92.14
51	18.12	31.20	47.45	65.48	82.01	
52	19.31	33.24	50.28	68.56	84.64	
53	20.61	35.43	53.23	71.61	87.14	
54	22.03	37.77	56.26	74.63	89.41	
55	23.58	40.26	59.36	77.58	91.50	
56	25.26	42.91				
57	27.07	45.69				
58	29.03	48.60				
59	31.14	51.61				
60	33.41	54.70				
61	35.82					
62	38.39					
63	41.08					
64	43.90					
65	46.83					
66	49.83					
67	52.90					
68	56.05					
69	59.15					
70	62.40					

Explanation.—At age 40, what are the chances of living 20 years longer? By looking under the heading "Chances in 100 of dying within 20 years," at the right of age 40, there will be found 25.85. Subtracting this from 100 leaves 74.15 A little more than 74 chances in a hundred to *live*, and a trifle less than 26 chances to die, in the next 20 years, and similarly with reference to any other age or time.

Used by agents in Endowments.

TABLE No. 19.

AGE.	Reserve Accumulations. Actuaries 4 per cent.		Face value of policy.	Insurance at risk.
		Col. 1.	Col. 2.	Col. 3.
36	End 1st year.	$114.81	$10,000	$9,885.19
37	" 2d "	233.38	10,000	9,766.62
38	" 3d "	355.90	10,000	9,644.10
39	" 4th "	482.47	10,000	9,517.53
40	" 5th "	613.38	10,000	9,386.62
41	" 6th "	748.56	10,000	9,251.44
42	" 7th "	888.43	10,000	9,111.57
43	" 8th "	1,032.89	10,000	8,967.11
44	" 9th "	1,181.60	10,000	8,818.40
45	" 10th "	1,334.12	10,000	8,665.88
46	" 11th "	1,490.16	10,000	8,509.84
47	" 12th "	1,649.17	10,000	8,350.83
48	" 13th "	1,811.06	10,000	8,188.94
49	" 14th "	1,975.65	10,000	8,024.35
50	" 15th "	2,143.00	10,000	7,857.00
51	" 16th "	2,312.84	10,000	7,687.16
52	" 17th "	2,484.97	10,000	7,515.03
53	" 18th "	2,959.22	10,000	7,340.78
54	" 19th "	2,835.41	10,000	7,164.59
55	" 20th "	3,013.47	10,000	6,986.53
56	" 21st "	3,193.20	10,000	6,806.80
57	" 22d "	3,374.33	10,000	6,625.67
58	" 23d "	3,556.89	10,000	6,443.11
59	" 24th "	3,740.63	10,000	6,259.37
60	" 25th "	3,925.28	10,000	6,074.72
61	" 26th "	4,110.22	10,000	5,889.78
62	" 27th "	4,295.20	10,000	5,704.80
63	" 28th "	4,479.76	10,000	5,520.24
64	" 29th "	4,663.63	10,000	5,336.37
65	" 30th "	4,846.38	10,000	5,153.62
66	" 31st "	5,027.75	10,000	4,972.25
67	" 32d "	5,207.18	10,000	4,972.82
68	" 33d "	5,384.50	10,000	4.615.50
69	" 34th "	5,559.47	10,000	4,440.53
70	" 35th "	5,732.01	10,000	4,267.99
75	" 40th "	6,550.10	10,000	3,449.90
80	" 45th "	7,281.49	10,000	2,718.51
100	" 65th "	10,000.00	10,000	0,000.00

Often referred to in Chapter VI.

TABLE No. 19.—Continued.

1 Per cent. of reserve. Col. 4.	2 per cent. of reserve. Col. 5.	3 per cent. of reserve. Col. 6.	4 per cent. of reserve. Col. 7.	Age.
$1.15	$2.30	$3.45	$4.60	36
2.33	4.66	6.99	9.32	37
3.56	7.12	10.68	14.24	38
4.82	9.64	14.46	19.28	39
6.13	12.26	18.39	24.52	40
7.49	14.98	22.47	29.96	41
8.88	17.76	26.64	35.52	42
10.33	20.66	30.99	41.32	43
11.82	23.64	35.46	47.28	44
13.34	26.68	40.02	53.36	45
14.90	29.80	44.70	59.60	46
16.49	32.98	49.47	65.96	47
18.11	36.22	54.33	72.44	48
19.76	39.52	59.28	79.04	49
21.43	42.86	64.29	85.72	50
23.13	46.26	69.39	92.52	51
24.85	49.70	74.55	99.40	52
26.59	53.18	79.77	106.36	53
28.35	56.70	85.05	113.40	54
30.13	60.26	90.39	120.52	55
31.93	63.86	95.80	127.73	56
33.74	67.49	101.23	134.97	57
35.57	71.13	106.70	142.27	58
37.41	74.81	112.21	149.62	59
39.25	78.50	117.75	157.00	60
41.10	82.20	123.31	164.41	61
42.95	85.90	128.86	171.81	62
44.80	89.59	134.39	179.19	63
46.64	93.27	139.90	186.54	64
48.46	96.92	145.38	193.84	65
50.28	100.55	150.83	201.11	66
52.07	104.14	156.21	208.28	67
53.85	107.69	161.53	215.38	68
55.59	111.19	166.78	222.37	69
57.32	114.64	171.96	229.28	70
65.50	131.00	196.50	262.00	75
72.81	145.62	218.43	291.24	80
100.00	200.00	300.00	400.00	100

Often referred to in Chapter VI.